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Title 40
Protection of Environment

Parts 96 to 99

Revised as of July 1, 2015

Containing a codification of documents-
of general applicability and future effect

As of July 1, 2015

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Table of Contents

	Page
Explanation	v
Title 40:	
Chapter I—Environmental Protection Agency (Continued)	3
Finding Aids:	
Table of CFR Titles and Chapters	1081
Alphabetical List of Agencies Appearing in the CFR	1101
List of CFR Sections Affected	1111

Cite this Code: CFR

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JOHN HYRUM MARTINEZ,
Acting Director,
Office of the Federal Register.
July 1, 2015.

THIS TITLE

Title 40—PROTECTION OF ENVIRONMENT is composed of thirty-three volumes. The parts in these volumes are arranged in the following order: Parts 1–49, parts 50–51, part 52 (52.01–52.1018), part 52 (52.1019–52.2019), part 52 (52.2020–end of part 52), parts 53–59, part 60 (60.1–end of part 60, sections), part 60 (Appendices), parts 61–62, part 63 (63.1–63.599), part 63 (63.600–63.1199), part 63 (63.1200–63.1439), part 63 (63.1440–63.6175), part 63 (63.6580–63.8830), part 63 (63.8980–end of part 63), parts 64–71, parts 72–80, parts 81–84, parts 85–86, parts 87–95, parts 96–99, parts 100–135, parts 136–149, parts 150–189, parts 190–259, parts 260–265, parts 266–299, parts 300–399, parts 400–424, parts 425–699, parts 700–789, parts 790–999, and part 1000 to end. The contents of these volumes represent all current regulations codified under this title of the CFR as of July 1, 2015.

Chapter I—Environmental Protection Agency appears in all thirty-three volumes. Regulations issued by the Council on Environmental Quality, including an Index to Parts 1500 through 1508, appear in the volume containing part 1000 to end. The OMB control numbers for title 40 appear in § 9.1 of this chapter.

For this volume, Susannah C. Hurley was Chief Editor. The Code of Federal Regulations publication program is under the direction of John Hyrum Martinez, assisted by Stephen J. Frattini.

Title 40—Protection of Environment

(This book contains parts 96 to 99)

Part

CHAPTER I—Environmental Protection Agency (Continued) 96

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY (CONTINUED)

EDITORIAL NOTE: Nomenclature changes to chapter I appear at 65 FR 47324, 47325, Aug. 2, 2000; 66 FR 34375, 34376, June 28, 2001; and 69 FR 18803, Apr. 9, 2004.

SUBCHAPTER C—AIR PROGRAMS (CONTINUED)

Part		*Page*
96	NO_X Budget Trading Program and Cair NO_X and SO_2 Trading Programs for State implementation plans	5
97	Federal NO_X Budget Trading Program and CAIR NO_X and SO_2 Trading Programs	170
98	Mandatory greenhouse gas reporting	542
99	[Reserved]	

SUBCHAPTER C—AIR PROGRAMS (CONTINUED)

PART 96—NO_X BUDGET TRADING PROGRAM AND CAIR NO_X AND SO_2 TRADING PROGRAMS FOR STATE IMPLEMENTATION PLANS

Subpart A—NO_X Budget Trading Program General Provisions

Sec.
96.1 Purpose.
96.2 Definitions.
96.3 Measurements, abbreviations, and acronyms.
96.4 Applicability.
96.5 Retired unit exemption.
96.6 Standard requirements.
96.7 Computation of time.

Subpart B—Authorized Account Representative for NO_X Budget Sources

96.10 Authorization and responsibilities of the NO_X authorized account representative.
96.11 Alternate NO_X authorized account representative.
96.12 Changing the NO_X authorized account representative and the alternate NO_X authorized account representative; changes in the owners and operators.
96.13 Account certificate of representation.
96.14 Objections concerning the NO_X authorized account representative.

Subpart C—Permits

96.20 General NO_X Budget trading program permit requirements.
96.21 Submission of NO_X Budget permit applications.
96.22 Information requirements for NO_X Budget permit applications.
96.23 NO_X Budget permit contents.
96.24 Effective date of initial NO_X Budget permit.
96.25 NO_X Budget permit revisions.

Subpart D—Compliance Certification

96.30 Compliance certification report.
96.31 Permitting authority's and Administrator's action on compliance certifications.

Subpart E—NO_X Allowance Allocations

96.40 State trading program budget.
96.41 Timing requirements for NO_X allowance allocations.
96.42 NO_X allowance allocations.

Subpart F—NO_X Allowance Tracking System

96.50 NO_X Allowance Tracking System accounts.
96.51 Establishment of accounts.
96.52 NO_X Allowance Tracking System responsibilities of NO_X authorized account representative.
96.53 Recordation of NO_X allowance allocations.
96.54 Compliance.
96.55 Banking.
96.56 Account error.
96.57 Closing of general accounts.

Subpart G—NO_X Allowance Transfers

96.60 Submission of NO_X allowance transfers.
96.61 EPA recordation.
96.62 Notification.

Subpart H—Monitoring and Reporting

96.70 General requirements.
96.71 Initial certification and recertification procedures.
96.72 Out of control periods.
96.73 Notifications.
96.74 Recordkeeping and reporting.
96.75 Petitions.
96.76 Additional requirements to provide heat input data for allocations purposes.

Subpart I—Individual Unit Opt-ins

96.80 Applicability.
96.81 General.
96.82 NO_X authorized account representative.
96.83 Applying for NO_X Budget opt-in permit.
96.84 Opt-in process.
96.85 NO_X Budget opt-in permit contents.
96.86 Withdrawal from NO_X Budget Trading Program.
96.87 Change in regulatory status.
96.88 NO_X allowance allocations to opt-in units.

Subpart J—Mobile and Area Sources [Reserved]

Subparts K–Z [Reserved]

Subpart AA—CAIR NO_X Annual Trading Program General Provisions

96.101 Purpose.
96.102 Definitions.
96.103 Measurements, abbreviations, and acronyms.
96.104 Applicability.

96.105 Retired unit exemption.
96.106 Standard requirements.
96.107 Computation of time.
96.108 Appeal procedures.

Subpart BB—CAIR Designated Representative for CAIR NO_X Sources

96.110 Authorization and responsibilities of CAIR designated representative.
96.111 Alternate CAIR designated representative.
96.112 Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.
96.113 Certificate of representation.
96.114 Objections concerning CAIR designated representative.
96.115 Delegation by CAIR designated representative and alternate CAIR designated representative.

Subpart CC—Permits

96.120 General CAIR NO_X Annual Trading Program permit requirements.
96.121 Submission of CAIR permit applications.
96.122 Information requirements for CAIR permit applications.
96.123 CAIR permit contents and term.
96.124 CAIR permit revisions.

Subpart DD [Reserved]

Subpart EE—CAIR NO_X Allowance Allocations

96.140 State trading budgets.
96.141 Timing requirements for CAIR NO_X allowance allocations.
96.142 CAIR NO_X allowance allocations.
96.143 Compliance supplement pool.

Subpart FF—CAIR NO_X Allowance Tracking System

96.150 [Reserved]
96.151 Establishment of accounts.
96.152 Responsibilities of CAIR authorized account representative.
96.153 Recordation of CAIR NO_X allowance allocations.
96.154 Compliance with CAIR NO_X emissions limitation.
96.155 Banking.
96.156 Account error.
96.157 Closing of general accounts.

Subpart GG—CAIR NO_X Allowance Transfers

96.160 Submission of CAIR NO_X allowance transfers.
96.161 EPA recordation.
96.162 Notification.

Subpart HH—Monitoring and Reporting

96.170 General requirements.
96.171 Initial certification and recertification procedures.
96.172 Out of control periods.
96.173 Notifications.
96.174 Recordkeeping and reporting.
96.175 Petitions.

Subpart II—CAIR NO_X Opt-in Units

96.180 Applicability.
96.181 General.
96.182 CAIR designated representative.
96.183 Applying for CAIR opt-in permit.
96.184 Opt-in process.
96.185 CAIR opt-in permit contents.
96.186 Withdrawal from CAIR NO_X Annual Trading Program.
96.187 Change in regulatory status.
96.188 CAIR NO_X allowance allocations to CAIR NO_X opt-in units.

Subparts JJ–ZZ [Reserved]

Subpart AAA—CAIR SO_2; Trading Program General Provisions

96.201 Purpose.
96.202 Definitions.
96.203 Measurements, abbreviations, and acronyms.
96.204 Applicability.
96.205 Retired unit exemption.
96.206 Standard requirements.
96.207 Computation of time.
96.208 Appeal procedures.

Subpart BBB—CAIR Designated Representative for CAIR SO_2 Sources

96.210 Authorization and responsibilities of CAIR designated representative.
96.211 Alternate CAIR designated representative.
96.212 Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.
96.213 Certificate of representation.
96.214 Objections concerning CAIR designated representative.
96.215 Delegation by CAIR designated representative and alternate CAIR designated representative.

Subpart CCC—Permits

96.220 General CAIR SO_2 Trading Program permit requirements.
96.221 Submission of CAIR permit applications.
96.222 Information requirements for CAIR permit applications.
96.223 CAIR permit contents and term.
96.224 CAIR permit revisions.

Subparts DDD–EEE [Reserved]

Subpart FFF—CAIR SO_2 Allowance Tracking System

96.250 [Reserved]
96.251 Establishment of accounts.
96.252 Responsibilities of CAIR authorized account representative.
96.253 Recordation of CAIR SO_2 allowances.
96.254 Compliance with CAIR SO_2 emissions limitation.
96.255 Banking.
96.256 Account error.
96.257 Closing of general accounts.

Subpart GGG—CAIR SO_2 Allowance Transfers

96.260 Submission of CAIR SO_2 allowance transfers.
96.261 EPA recordation.
96.262 Notification.

Subpart HHH—Monitoring and Reporting

96.270 General requirements.
96.271 Initial certification and recertification procedures.
96.272 Out of control periods.
96.273 Notifications.
96.274 Recordkeeping and reporting.
96.275 Petitions.

Subpart III—CAIR SO_2 Opt-in Units

96.280 Applicability.
96.281 General.
96.282 CAIR designated representative.
96.283 Applying for CAIR opt-in permit.
96.284 Opt-in process.
96.285 CAIR opt-in permit contents.
96.286 Withdrawal from CAIR SO_2 Trading Program.
96.287 Change in regulatory status.
96.288 CAIR SO_2 allowance allocations to CAIR SO_2 opt-in units.

Subparts JJJ–ZZZ [Reserved]

Subpart AAAA—CAIR NO_XOzone Season Trading Program General Provisions

96.301 Purpose.
96.302 Definitions.
96.303 Measurements, abbreviations, and acronyms.
96.304 Applicability.
96.305 Retired unit exemption.
96.306 Standard requirements.
96.307 Computation of time.
96.308 Appeal procedures.

Subpart BBBB—CAIR Designated Representative for CAIR NO_X Ozone Season Sources

96.310 Authorization and responsibilities of CAIR designated representative.
96.311 Alternate CAIR designated representative.
96.312 Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.
96.313 Certificate of representation.
96.314 Objections concerning CAIR designated representative.
96.315 Delegation by CAIR designated representative and alternate CAIR designated representative.

Subpart CCCC—Permits

96.320 General CAIR NO_X Ozone Season Trading Program permit requirements.
96.321 Submission of CAIR permit applications.
96.322 Information requirements for CAIR permit applications.
96.323 CAIR permit contents and term.
96.324 CAIR permit revisions.

Subpart DDDD [Reserved]

Subpart EEEE—CAIR NO_X Ozone Season Allowance Allocations

96.340 State trading budgets.
96.341 Timing requirements for CAIR NO_X Ozone Season allowance allocations.
96.342 CAIR NO_X Ozone Season allowance allocations.

Subpart FFFF—CAIR NO_X Ozone Season Allowance Tracking System

96.350 [Reserved]
96.351 Establishment of accounts.
96.352 Responsibilities of CAIR authorized account representative.
96.353 Recordation of CAIR NO_X Ozone Season allowance allocations.
96.354 Compliance with CAIR NO_X emissions limitation.
96.355 Banking.
96.356 Account error.
96.357 Closing of general accounts.

Subpart GGGG—CAIR NO_X Ozone Season Allowance Transfers

96.360 Submission of CAIR NO_X Ozone Season allowance transfers.
96.361 EPA recordation.
96.362 Notification.

Subpart HHHH—Monitoring and Reporting

96.370 General requirements.
96.371 Initial certification and recertification procedures.
96.372 Out of control periods.
96.373 Notifications.
96.374 Recordkeeping and reporting.
96.375 Petitions.

Subpart IIII—CAIR NO_X Ozone Season Opt-in Units

96.380 Applicability.
96.381 General.
96.382 CAIR designated representative.
96.383 Applying for CAIR opt-in permit.
96.384 Opt-in process.
96.385 CAIR opt-in permit contents.
96.386 Withdrawal from CAIR NO_X Ozone Season Trading Program.
96.387 Change in regulatory status.
96.388 CAIR NO_X Ozone Season allowance allocations to CAIR NO_X Ozone Season opt-in units.

AUTHORITY: 42 U.S.C. 7401, 7403, 7410, 7601, and 7651, *et seq.*

SOURCE: 63 FR 57514, Oct. 27, 1998, unless otherwise noted.

Subpart A—NO_X Budget Trading Program General Provisions

§ 96.1 Purpose.

This part establishes general provisions and the applicability, permitting, allowance, excess emissions, monitoring, and opt-in provisions for the NO_X Budget Trading Program for State implementation plans as a means of mitigating the interstate transport of ozone and nitrogen oxides, an ozone precursor. The owner or operator of a unit, or any other person, shall comply with requirements of this part as a matter of federal law only to the extent a State that has jurisdiction over the unit incorporates by reference provisions of this part, or otherwise adopts such requirements of this part, and requires compliance, the State submits to the Administrator a State implementation plan including such adoption and such compliance requirement, and the Administrator approves the portion of the State implementation plan including such adoption and such compliance requirement. To the extent a State adopts requirements of this part, including at a minimum the requirements of subpart A (except for § 96.4(b)), subparts B through D, subpart F (except for § 96.55(c)), and subparts G and H of this part, the State authorizes the Administrator to assist the State in implementing the NO_X Budget Trading Program by carrying out the functions set forth for the Administrator in such requirements.

§ 96.2 Definitions.

The terms used in this part shall have the meanings set forth in this section as follows:

Account certificate of representation means the completed and signed submission required by subpart B of this part for certifying the designation of a NO_X authorized account representative for a NO_X Budget source or a group of identified NO_X Budget sources who is authorized to represent the owners and operators of such source or sources and of the NO_X Budget units at such source or sources with regard to matters under the NO_X Budget Trading Program.

Account number means the identification number given by the Administrator to each NO_X Allowance Tracking System account.

Acid Rain emissions limitation means, as defined in § 72.2 of this chapter, a limitation on emissions of sulfur dioxide or nitrogen oxides under the Acid Rain Program under title IV of the CAA.

Administrator means the Administrator of the United States Environmental Protection Agency or the Administrator's duly authorized representative.

Allocate or *allocation* means the determination by the permitting authority or the Administrator of the number of NO_X allowances to be initially credited to a NO_X Budget unit or an allocation set-aside.

Automated data acquisition and handling system or *DAHS* means that component of the CEMS, or other emissions monitoring system approved for use under subpart H of this part, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the

measured parameters in the measurement units required by subpart H of this part.

Boiler means an enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

CAA means the CAA, 42 U.S.C. 7401, *et seq.*, as amended by Pub. L. No. 101–549 (November 15, 1990).

Combined cycle system means a system comprised of one or more combustion turbines, heat recovery steam generators, and steam turbines configured to improve overall efficiency of electricity generation or steam production.

Combustion turbine means an enclosed fossil or other fuel-fired device that is comprised of a compressor, a combustor, and a turbine, and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine.

Commence commercial operation means, with regard to a unit that serves a generator, to have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation. Except as provided in §96.5, for a unit that is a NO_X Budget unit under §96.4 on the date the unit commences commercial operation, such date shall remain the unit's date of commencement of commercial operation even if the unit is subsequently modified, reconstructed, or repowered. Except as provided in §96.5 or subpart I of this part, for a unit that is not a NO_X Budget unit under §96.4 on the date the unit commences commercial operation, the date the unit becomes a NO_X Budget unit under §96.4 shall be the unit's date of commencement of commercial operation.

Commence operation means to have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber. Except as provided in §96.5, for a unit that is a NO_X Budget unit under §96.4 on the date of commencement of operation, such date shall remain the unit's date of commencement of operation even if the unit is subsequently modified, reconstructed, or repowered. Except as provided in §96.5 or subpart I of this part, for a unit that is not a NO_X Budget unit under §96.4 on the date of commencement of operation, the date the unit becomes a NO_X Budget unit under §96.4 shall be the unit's date of commencement of operation.

Common stack means a single flue through which emissions from two or more units are exhausted.

Compliance account means a NO_X Allowance Tracking System account, established by the Administrator for a NO_X Budget unit under subpart F of this part, in which the NO_X allowance allocations for the unit are initially recorded and in which are held NO_X allowances available for use by the unit for a control period for the purpose of meeting the unit's NO_X Budget emissions limitation.

Compliance certification means a submission to the permitting authority or the Administrator, as appropriate, that is required under subpart D of this part to report a NO_X Budget source's or a NO_X Budget unit's compliance or noncompliance with this part and that is signed by the NO_X authorized account representative in accordance with subpart B of this part.

Continuous emission monitoring system or *CEMS* means the equipment required under subpart H of this part to sample, analyze, measure, and provide, by readings taken at least once every 15 minutes of the measured parameters, a permanent record of nitrogen oxides emissions, expressed in tons per hour for nitrogen oxides. The following systems are component parts included, consistent with part 75 of this chapter, in a continuous emission monitoring system:

(1) Flow monitor;

(2) Nitrogen oxides pollutant concentration monitors;

(3) Diluent gas monitor (oxygen or carbon dioxide) when such monitoring is required by subpart H of this part;

(4) A continuous moisture monitor when such monitoring is required by subpart H of this part; and

(5) An automated data acquisition and handling system.

Control period means the period beginning May 1 of a year and ending on September 30 of the same year, inclusive.

Emissions means air pollutants exhausted from a unit or source into the

atmosphere, as measured, recorded, and reported to the Administrator by the NO_X authorized account representative and as determined by the Administrator in accordance with subpart H of this part.

Energy Information Administration means the Energy Information Administration of the United States Department of Energy.

Excess emissions means any tonnage of nitrogen oxides emitted by a NO_X Budget unit during a control period that exceeds the NO_X Budget emissions limitation for the unit.

Fossil fuel means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.

Fossil fuel-fired means, with regard to a unit:

(1) The combustion of fossil fuel, alone or in combination with any other fuel, where fossil fuel actually combusted comprises more than 50 percent of the annual heat input on a Btu basis during any year starting in 1995 or, if a unit had no heat input starting in 1995, during the last year of operation of the unit prior to 1995; or

(2) The combustion of fossil fuel, alone or in combination with any other fuel, where fossil fuel is projected to comprise more than 50 percent of the annual heat input on a Btu basis during any year; provided that the unit shall be ''fossil fuel-fired'' as of the date, during such year, on which the unit begins combusting fossil fuel.

General account means a NO_X Allowance Tracking System account, established under subpart F of this part, that is not a compliance account or an overdraft account.

Generator means a device that produces electricity.

Heat input means the product (in mmBtu/time) of the gross calorific value of the fuel (in Btu/lb) and the fuel feed rate into a combustion device (in mass of fuel/time), as measured, recorded, and reported to the Administrator by the NO_X authorized account representative and as determined by the Administrator in accordance with subpart H of this part, and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy from any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period equal to or greater than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input means the ability of a unit to combust a stated maximum amount of fuel per hour on a steady state basis, as determined by the physical design and physical characteristics of the unit.

Maximum potential hourly heat input means an hourly heat input used for reporting purposes when a unit lacks certified monitors to report heat input. If the unit intends to use appendix D of part 75 of this chapter to report heat input, this value should be calculated, in accordance with part 75 of this chapter, using the maximum fuel flow rate and the maximum gross calorific value. If the unit intends to use a flow monitor and a diluent gas monitor, this value should be reported, in accordance with part 75 of this chapter, using the maximum potential flowrate and either the maximum carbon dioxide concentration (in percent CO_2) or the minimum oxygen concentration (in percent O_2).

Maximum potential NO_X emission rate means the emission rate of nitrogen oxides (in lb/mmBtu) calculated in accordance with section 3 of appendix F of part 75 of this chapter, using the maximum potential nitrogen oxides concentration as defined in section 2 of appendix A of part 75 of this chapter,

and either the maximum oxygen concentration (in percent O_2) or the minimum carbon dioxide concentration (in percent CO_2), under all operating conditions of the unit except for unit start up, shutdown, and upsets.

Maximum rated hourly heat input means a unit-specific maximum hourly heat input (mmBtu) which is the higher of the manufacturer's maximum rated hourly heat input or the highest observed hourly heat input.

Monitoring system means any monitoring system that meets the requirements of subpart H of this part, including a continuous emissions monitoring system, an excepted monitoring system, or an alternative monitoring system.

Most stringent State or Federal NO_X emissions limitation means, with regard to a NO_X Budget opt-in source, the lowest NO_X emissions limitation (in terms of lb/mmBtu) that is applicable to the unit under State or Federal law, regardless of the averaging period to which the emissions limitation applies.

Nameplate capacity means the maximum electrical generating output (in MWe) that a generator can sustain over a specified period of time when not restricted by seasonal or other deratings as measured in accordance with the United States Department of Energy standards.

Non-title V permit means a federally enforceable permit administered by the permitting authority pursuant to the CAA and regulatory authority under the CAA, other than title V of the CAA and part 70 or 71 of this chapter.

NO_X allowance means an authorization by the permitting authority or the Administrator under the NO_X Budget Trading Program to emit up to one ton of nitrogen oxides during the control period of the specified year or of any year thereafter.

NO_X allowance deduction or *deduct NO_X allowances* means the permanent withdrawal of NO_X allowances by the Administrator from a NO_X Allowance Tracking System compliance account or overdraft account to account for the number of tons of NO_X emissions from a NO_X Budget unit for a control period, determined in accordance with subpart H of this part, or for any other allowance surrender obligation under this part.

NO_X allowances held or *hold NO_X allowances* means the NO_X allowances recorded by the Administrator, or submitted to the Administrator for recordation, in accordance with subparts F and G of this part, in a NO_X Allowance Tracking System account.

NO_X Allowance Tracking System means the system by which the Administrator records allocations, deductions, and transfers of NO_X allowances under the NO_X Budget Trading Program.

NO_X Allowance Tracking System account means an account in the NO_X Allowance Tracking System established by the Administrator for purposes of recording the allocation, holding, transferring, or deducting of NO_X allowances.

NO_X allowance transfer deadline means midnight of November 30 or, if November 30 is not a business day, midnight of the first business day thereafter and is the deadline by which NO_X allowances may be submitted for recordation in a NO_X Budget unit's compliance account, or the overdraft account of the source where the unit is located, in order to meet the unit's NO_X Budget emissions limitation for the control period immediately preceding such deadline.

NO_X authorized account representative means, for a NO_X Budget source or NO_X Budget unit at the source, the natural person who is authorized by the owners and operators of the source and all NO_X Budget units at the source, in accordance with subpart B of this part, to represent and legally bind each owner and operator in matters pertaining to the NO_X Budget Trading Program or, for a general account, the natural person who is authorized, in accordance with subpart F of this part, to transfer or otherwise dispose of NO_X allowances held in the general account.

NO_X Budget emissions limitation means, for a NO_X Budget unit, the tonnage equivalent of the NO_X allowances available for compliance deduction for the unit and for a control period under §96.54(a) and (b), adjusted by any deductions of such NO_X allowances to account for actual utilization under §96.42(e) for the control period or to account for excess emissions for a prior

control period under § 96.54(d) or to account for withdrawal from the NO_X Budget Program, or for a change in regulatory status, for a NO_X Budget opt-in source under § 96.86 or § 96.87.

NO_X Budget opt-in permit means a NO_X Budget permit covering a NO_X Budget opt-in source.

NO_X Budget opt-in source means a unit that has been elected to become a NO_X Budget unit under the NO_X Budget Trading Program and whose NO_X Budget opt-in permit has been issued and is in effect under subpart I of this part.

NO_X Budget permit means the legally binding and federally enforceable written document, or portion of such document, issued by the permitting authority under this part, including any permit revisions, specifying the NO_X Budget Trading Program requirements applicable to a NO_X Budget source, to each NO_X Budget unit at the NO_X Budget source, and to the owners and operators and the NO_X authorized account representative of the NO_X Budget source and each NO_X Budget unit.

NO_X Budget source means a source that includes one or more NO_X Budget units.

NO_X Budget Trading Program means a multi-state nitrogen oxides air pollution control and emission reduction program established in accordance with this part and pursuant to § 51.121 of this chapter, as a means of mitigating the interstate transport of ozone and nitrogen oxides, an ozone precursor.

NO_X Budget unit means a unit that is subject to the NO_X Budget Trading Program emissions limitation under § 96.4 or § 96.80.

Operating means, with regard to a unit under §§ 96.22(d)(2) and 96.80, having documented heat input for more than 876 hours in the 6 months immediately preceding the submission of an application for an initial NO_X Budget permit under § 96.83(a).

Operator means any person who operates, controls, or supervises a NO_X Budget unit, a NO_X Budget source, or unit for which an application for a NO_X Budget opt-in permit under § 96.83 is submitted and not denied or withdrawn and shall include, but not be limited to, any holding company, utility system, or plant manager of such a unit or source.

Opt-in means to be elected to become a NO_X Budget unit under the NO_X Budget Trading Program through a final, effective NO_X Budget opt-in permit under subpart I of this part.

Overdraft account means the NO_X Allowance Tracking System account, established by the Administrator under subpart F of this part, for each NO_X Budget source where there are two or more NO_X Budget units.

Owner means any of the following persons:

(1) Any holder of any portion of the legal or equitable title in a NO_X Budget unit or in a unit for which an application for a NO_X Budget opt-in permit under § 96.83 is submitted and not denied or withdrawn; or

(2) Any holder of a leasehold interest in a NO_X Budget unit or in a unit for which an application for a NO_X Budget opt-in permit under § 96.83 is submitted and not denied or withdrawn; or

(3) Any purchaser of power from a NO_X Budget unit or from a unit for which an application for a NO_X Budget opt-in permit under § 96.83 is submitted and not denied or withdrawn under a life-of-the-unit, firm power contractual arrangement. However, unless expressly provided for in a leasehold agreement, owner shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based, either directly or indirectly, upon the revenues or income from the NO_X Budget unit or the unit for which an application for a NO_X Budget opt-in permit under § 96.83 is submitted and not denied or withdrawn; or

(4) With respect to any general account, any person who has an ownership interest with respect to the NO_X allowances held in the general account and who is subject to the binding agreement for the NO_X authorized account representative to represent that person's ownership interest with respect to NO_X allowances.

Permitting authority means the State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to issue or revise permits to meet the requirements of the NO_X

Budget Trading Program in accordance with subpart C of this part.

Receive or receipt of means, when referring to the permitting authority or the Administrator, to come into possession of a document, information, or correspondence (whether sent in writing or by authorized electronic transmission), as indicated in an official correspondence log, or by a notation made on the document, information, or correspondence, by the permitting authority or the Administrator in the regular course of business.

Recordation, record, or recorded means, with regard to NO_X allowances, the movement of NO_X allowances by the Administrator from one NO_X Allowance Tracking System account to another, for purposes of allocation, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in appendix A of part 60 of this chapter.

Serial number means, when referring to NO_X allowances, the unique identification number assigned to each NO_X allowance by the Administrator, under §96.53(c).

Source means any governmental, institutional, commercial, or industrial structure, installation, plant, building, or facility that emits or has the potential to emit any regulated air pollutant under the CAA. For purposes of section 502(c) of the CAA, a ''source,'' including a ''source'' with multiple units, shall be considered a single ''facility.''

State means one of the 48 contiguous States and the District of Columbia specified in §51.121 of this chapter, or any non-federal authority in or including such States or the District of Columbia (including local agencies, and Statewide agencies) or any eligible Indian tribe in an area of such State or the District of Columbia, that adopts a NO_X Budget Trading Program pursuant to §51.121 of this chapter. To the extent a State incorporates by reference the provisions of this part, the term ''State'' shall mean the incorporating State. The term ''State'' shall have its conventional meaning where such meaning is clear from the context.

State trading program budget means the total number of NO_X tons apportioned to all NO_X Budget units in a given State, in accordance with the NO_X Budget Trading Program, for use in a given control period.

Submit or serve means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery. Compliance with any ''submission,'' ''service,'' or ''mailing'' deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Title V operating permit means a permit issued under title V of the CAA and part 70 or part 71 of this chapter.

Title V operating permit regulations means the regulations that the Administrator has approved or issued as meeting the requirements of title V of the CAA and part 70 or 71 of this chapter.

Ton or tonnage means any ''short ton'' (i.e., 2,000 pounds). For the purpose of determining compliance with the NO_X Budget emissions limitation, total tons for a control period shall be calculated as the sum of all recorded hourly emissions (or the tonnage equivalent of the recorded hourly emissions rates) in accordance with subpart H of this part, with any remaining fraction of a ton equal to or greater than 0.50 ton deemed to equal one ton and any fraction of a ton less than 0.50 ton deemed to equal zero tons.

Unit means a fossil fuel-fired stationary boiler, combustion turbine, or combined cycle system.

Unit load means the total (i.e., gross) output of a unit in any control period (or other specified time period) produced by combusting a given heat input of fuel, expressed in terms of:

(1) The total electrical generation (MWe) produced by the unit, including generation for use within the plant; or

(2) In the case of a unit that uses heat input for purposes other than electrical generation, the total steam pressure (psia) produced by the unit, including steam for use by the unit.

Unit operating day means a calendar day in which a unit combusts any fuel.

Unit operating hour or *hour of unit operation* means any hour (or fraction of an hour) during which a unit combusts any fuel.

Utilization means the heat input (expressed in mmBtu/time) for a unit. The unit's total heat input for the control period in each year will be determined in accordance with part 75 of this chapter if the NO_X Budget unit was otherwise subject to the requirements of part 75 of this chapter for the year, or will be based on the best available data reported to the Administrator for the unit if the unit was not otherwise subject to the requirements of part 75 of this chapter for the year.

§ 96.3 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this part are defined as follows:

Btu—British thermal unit.
hr—hour.
Kwh—kilowatt hour.
lb—pounds.
mmBtu—million Btu.
MWe—megawatt electrical.
ton—2000 pounds.
CO_2—carbon dioxide.
NO_X—nitrogen oxides.
O_2—oxygen.

§ 96.4 Applicability.

(a) The following units in a State shall be NO_X Budget units, and any source that includes one or more such units shall be a NO_X Budget source, subject to the requirements of this part:

(1) Any unit that, any time on or after January 1, 1995, serves a generator with a nameplate capacity greater than 25 MWe and sells any amount of electricity; or

(2) Any unit that is not a unit under paragraph (a) of this section and that has a maximum design heat input greater than 250 mmBtu/hr.

(b) Notwithstanding paragraph (a) of this section, a unit under paragraph (a) of this section shall be subject only to the requirements of this paragraph (b) if the unit has a federally enforceable permit that meets the requirements of paragraph (b)(1) of this section and restricts the unit to burning only natural gas or fuel oil during a control period in 2003 or later and each control period thereafter and restricts the unit's operating hours during each such control period to the number of hours (determined in accordance with paragraph (b)(1)(ii) and (iii) of this section) that limits the unit's potential NO_X mass emissions for the control period to 25 tons or less. Notwithstanding paragraph (a) of this section, starting with the effective date of such federally enforceable permit, the unit shall not be a NO_X Budget unit.

(1) For each control period under paragraph (b) of this section, the federally enforceable permit must:

(i) Restrict the unit to burning only natural gas or fuel oil.

(ii) Restrict the unit's operating hours to the number calculated by dividing 25 tons of potential NO_X mass emissions by the unit's maximum potential hourly NO_X mass emissions.

(iii) Require that the unit's potential NO_X mass emissions shall be calculated as follows:

(A) Select the default NO_X emission rate in Table 2 of § 75.19 of this chapter that would otherwise be applicable assuming that the unit burns only the type of fuel (i.e., only natural gas or only fuel oil) that has the highest default NO_X emission factor of any type of fuel that the unit is allowed to burn under the fuel use restriction in paragraph (b)(1)(i) of this section; and

(B) Multiply the default NO_X emission rate under paragraph (b)(1)(iii)(A) of this section by the unit's maximum rated hourly heat input. The owner or operator of the unit may petition the permitting authority to use a lower value for the unit's maximum rated hourly heat input than the value as defined under § 96.2. The permitting authority may approve such lower value if the owner or operator demonstrates that the maximum hourly heat input specified by the manufacturer or the highest observed hourly heat input, or both, are not representative, and that such lower value is representative, of the unit's current capabilities because modifications have been made to the unit, limiting its capacity permanently.

(iv) Require that the owner or operator of the unit shall retain at the source that includes the unit, for 5 years, records demonstrating that the

operating hours restriction, the fuel use restriction, and the other requirements of the permit related to these restrictions were met.

(v) Require that the owner or operator of the unit shall report the unit's hours of operation (treating any partial hour of operation as a whole hour of operation) during each control period to the permitting authority by November 1 of each year for which the unit is subject to the federally enforceable permit.

(2) The permitting authority that issues the federally enforceable permit with the fuel use restriction under paragraph (b)(1)(i) and the operating hours restriction under paragraphs (b)(1)(ii) and (iii) of this section will notify the Administrator in writing of each unit under paragraph (a) of this section whose federally enforceable permit issued by the permitting authority includes such restrictions. The permitting authority will also notify the Administrator in writing of each unit under paragraph (a) of this section whose federally enforceable permit issued by the permitting authority is revised to remove any such restriction, whose federally enforceable permit issued by the permitting authority includes any such restriction that is no longer applicable, or which does not comply with any such restriction.

(3) If, for any control period under paragraph (b) of this section, the fuel use restriction under paragraph (b)(1)(i) of this section or the operating hours restriction under paragraphs (b)(1)(ii) and (iii) of this section is removed from the unit's federally enforceable permit or otherwise becomes no longer applicable or if, for any such control period, the unit does not comply with the fuel use restriction under paragraph (b)(1)(i) of this section or the operating hours restriction under paragraphs (b)(1)(ii) and (iii) of this section, the unit shall be a NO_X Budget unit, subject to the requirements of this part. Such unit shall be treated as commencing operation and, for a unit under paragraph (a)(1) of this section, commencing commercial operation on September 30 of the control period for which the fuel use restriction or the operating hours restriction is no longer applicable or during which the unit does not comply with the fuel use restriction or the operating hours restriction.

§96.5 Retired unit exemption.

(a) This section applies to any NO_X Budget unit, other than a NO_X Budget opt-in source, that is permanently retired.

(b)(1) Any NO_X Budget unit, other than a NO_X Budget opt-in source, that is permanently retired shall be exempt from the NO_X Budget Trading Program, except for the provisions of this section, §§96.2, 96.3, 96.4, 96.7 and subparts E, F, and G of this part.

(2) The exemption under paragraph (b)(1) of this section shall become effective the day on which the unit is permanently retired. Within 30 days of permanent retirement, the NO_X authorized account representative (authorized in accordance with subpart B of this part) shall submit a statement to the permitting authority otherwise responsible for administering any NO_X Budget permit for the unit. A copy of the statement shall be submitted to the Administrator. The statement shall state (in a format prescribed by the permitting authority) that the unit is permanently retired and will comply with the requirements of paragraph (c) of this section.

(3) After receipt of the notice under paragraph (b)(2) of this section, the permitting authority will amend any permit covering the source at which the unit is located to add the provisions and requirements of the exemption under paragraphs (b)(1) and (c) of this section.

(c) *Special provisions.* (1) A unit exempt under this section shall not emit any nitrogen oxides, starting on the date that the exemption takes effect. The owners and operators of the unit will be allocated allowances in accordance with subpart E of this part.

(2)(i) A unit exempt under this section and located at a source that is required, or but for this exemption would be required, to have a title V operating permit shall not resume operation unless the NO_X authorized account representative of the source submits a complete NO_X Budget permit application under §96.22 for the unit not less than 18 months (or such lesser time provided under the permitting

authority's title V operating permits regulations for final action on a permit application) prior to the later of May 1, 2003 or the date on which the unit is to first resume operation.

(ii) A unit exempt under this section and located at a source that is required, or but for this exemption would be required, to have a non-title V permit shall not resume operation unless the NO_X authorized account representative of the source submits a complete NO_X Budget permit application under § 96.22 for the unit not less than 18 months (or such lesser time provided under the permitting authority's non-title V permits regulations for final action on a permit application) prior to the later of May 1, 2003 or the date on which the unit is to first resume operation.

(3) The owners and operators and, to the extent applicable, the NO_X authorized account representative of a unit exempt under this section shall comply with the requirements of the NO_X Budget Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(4) A unit that is exempt under this section is not eligible to be a NO_X Budget opt-in source under subpart I of this part.

(5) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under this section shall retain at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the permitting authority or the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(6) *Loss of exemption.* (i) On the earlier of the following dates, a unit exempt under paragraph (b) of this section shall lose its exemption:

(A) The date on which the NO_X authorized account representative submits a NO_X Budget permit application under paragraph (c)(2) of this section; or

(B) The date on which the NO_X authorized account representative is required under paragraph (c)(2) of this section to submit a NO_X Budget permit application.

(ii) For the purpose of applying monitoring requirements under subpart H of this part, a unit that loses its exemption under this section shall be treated as a unit that commences operation or commercial operation on the first date on which the unit resumes operation.

§ 96.6 Standard requirements.

(a) *Permit Requirements.* (1) The NO_X authorized account representative of each NO_X Budget source required to have a federally enforceable permit and each NO_X Budget unit required to have a federally enforceable permit at the source shall:

(i) Submit to the permitting authority a complete NO_X Budget permit application under § 96.22 in accordance with the deadlines specified in § 96.21(b) and (c);

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review a NO_X Budget permit application and issue or deny a NO_X Budget permit.

(2) The owners and operators of each NO_X Budget source required to have a federally enforceable permit and each NO_X Budget unit required to have a federally enforceable permit at the source shall have a NO_X Budget permit issued by the permitting authority and operate the unit in compliance with such NO_X Budget permit.

(3) The owners and operators of a NO_X Budget source that is not otherwise required to have a federally enforceable permit are not required to submit a NO_X Budget permit application, and to have a NO_X Budget permit, under subpart C of this part for such NO_X Budget source.

(b) *Monitoring requirements.* (1) The owners and operators and, to the extent applicable, the NO_X authorized account representative of each NO_X Budget source and each NO_X Budget unit at the source shall comply with the monitoring requirements of subpart H of this part.

(2) The emissions measurements recorded and reported in accordance with

subpart H of this part shall be used to determine compliance by the unit with the NO_X Budget emissions limitation under paragraph (c) of this section.

(c) *Nitrogen oxides requirements.* (1) The owners and operators of each NO_X Budget source and each NO_X Budget unit at the source shall hold NO_X allowances available for compliance deductions under §96.54, as of the NO_X allowance transfer deadline, in the unit's compliance account and the source's overdraft account in an amount not less than the total NO_X emissions for the control period from the unit, as determined in accordance with subpart H of this part, plus any amount necessary to account for actual utilization under §96.42(e) for the control period.

(2) Each ton of nitrogen oxides emitted in excess of the NO_X Budget emissions limitation shall constitute a separate violation of this part, the CAA, and applicable State law.

(3) A NO_X Budget unit shall be subject to the requirements under paragraph (c)(1) of this section starting on the later of May 1, 2003 or the date on which the unit commences operation.

(4) NO_X allowances shall be held in, deducted from, or transferred among NO_X Allowance Tracking System accounts in accordance with subparts E, F, G, and I of this part.

(5) A NO_X allowance shall not be deducted, in order to comply with the requirements under paragraph (c)(1) of this section, for a control period in a year prior to the year for which the NO_X allowance was allocated.

(6) A NO_X allowance allocated by the permitting authority or the Administrator under the NO_X Budget Trading Program is a limited authorization to emit one ton of nitrogen oxides in accordance with the NO_X Budget Trading Program. No provision of the NO_X Budget Trading Program, the NO_X Budget permit application, the NO_X Budget permit, or an exemption under §96.5 and no provision of law shall be construed to limit the authority of the United States or the State to terminate or limit such authorization.

(7) A NO_X allowance allocated by the permitting authority or the Administrator under the NO_X Budget Trading Program does not constitute a property right.

(8) Upon recordation by the Administrator under subpart F, G, or I of this part, every allocation, transfer, or deduction of a NO_X allowance to or from a NO_X Budget unit's compliance account or the overdraft account of the source where the unit is located is deemed to amend automatically, and become a part of, any NO_X Budget permit of the NO_X Budget unit by operation of law without any further review.

(d) *Excess emissions requirements.* (1) The owners and operators of a NO_X Budget unit that has excess emissions in any control period shall:

(i) Surrender the NO_X allowances required for deduction under §96.54(d)(1); and

(ii) Pay any fine, penalty, or assessment or comply with any other remedy imposed under §96.54(d)(3).

(e) *Recordkeeping and Reporting requirements.* (1) Unless otherwise provided, the owners and operators of the NO_X Budget source and each NO_X Budget unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the permitting authority or the Administrator.

(i) The account certificate of representation for the NO_X authorized account representative for the source and each NO_X Budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with §96.13; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new account certificate of representation changing the NO_X authorized account representative.

(ii) All emissions monitoring information, in accordance with subpart H of this part; provided that to the extent that subpart H of this part provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the NO_X Budget Trading Program.

(iv) Copies of all documents used to complete a NO_X Budget permit application and any other submission under the NO_X Budget Trading Program or to demonstrate compliance with the requirements of the NO_X Budget Trading Program.

(2) The NO_X authorized account representative of a NO_X Budget source and each NO_X Budget unit at the source shall submit the reports and compliance certifications required under the NO_X Budget Trading Program, including those under subparts D, H, or I of this part.

(f) *Liability*. (1) Any person who knowingly violates any requirement or prohibition of the NO_X Budget Trading Program, a NO_X Budget permit, or an exemption under § 96.5 shall be subject to enforcement pursuant to applicable State or Federal law.

(2) Any person who knowingly makes a false material statement in any record, submission, or report under the NO_X Budget Trading Program shall be subject to criminal enforcement pursuant to the applicable State or Federal law.

(3) No permit revision shall excuse any violation of the requirements of the NO_X Budget Trading Program that occurs prior to the date that the revision takes effect.

(4) Each NO_X Budget source and each NO_X Budget unit shall meet the requirements of the NO_X Budget Trading Program.

(5) Any provision of the NO_X Budget Trading Program that applies to a NO_X Budget source (including a provision applicable to the NO_X authorized account representative of a NO_X Budget source) shall also apply to the owners and operators of such source and of the NO_X Budget units at the source.

(6) Any provision of the NO_X Budget Trading Program that applies to a NO_X Budget unit (including a provision applicable to the NO_X authorized account representative of a NO_X budget unit) shall also apply to the owners and operators of such unit. Except with regard to the requirements applicable to units with a common stack under subpart H of this part, the owners and operators and the NO_X authorized account representative of one NO_X Budget unit shall not be liable for any violation by any other NO_X Budget unit of which they are not owners or operators or the NO_X authorized account representative and that is located at a source of which they are not owners or operators or the NO_X authorized account representative.

(g) *Effect on other authorities*. No provision of the NO_X Budget Trading Program, a NO_X Budget permit application, a NO_X Budget permit, or an exemption under § 96.5 shall be construed as exempting or excluding the owners and operators and, to the extent applicable, the NO_X authorized account representative of a NO_X Budget source or NO_X Budget unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the CAA.

§ 96.7 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the NO_X Budget Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the NO_X Budget Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the NO_X Budget Trading Program, falls on a weekend or a State or Federal holiday, the time period shall be extended to the next business day.

Subpart B—NO_X Authorized Account Representative for NO_X Budget Sources

§ 96.10 Authorization and responsibilities of the NO_X authorized account representative.

(a) Except as provided under § 96.11, each NO_X Budget source, including all NO_X Budget units at the source, shall have one and only one NO_X authorized account representative, with regard to all matters under the NO_X Budget Trading Program concerning the source or any NO_X Budget unit at the source.

(b) The NO_X authorized account representative of the NO_X Budget source shall be selected by an agreement binding on the owners and operators of the source and all NO_X Budget units at the source.

(c) Upon receipt by the Administrator of a complete account certificate of representation under §96.13, the NO_X authorized account representative of the source shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the NO_X Budget source represented and each NO_X Budget unit at the source in all matters pertaining to the NO_X Budget Trading Program, not withstanding any agreement between the NO_X authorized account representative and such owners and operators. The owners and operators shall be bound by any decision or order issued to the NO_X authorized account representative by the permitting authority, the Administrator, or a court regarding the source or unit.

(d) No NO_X Budget permit shall be issued, and no NO_X Allowance Tracking System account shall be established for a NO_X Budget unit at a source, until the Administrator has received a complete account certificate of representation under §96.13 for a NO_X authorized account representative of the source and the NO_X Budget units at the source.

(e)(1) Each submission under the NO_X Budget Trading Program shall be submitted, signed, and certified by the NO_X authorized account representative for each NO_X Budget source on behalf of which the submission is made. Each such submission shall include the following certification statement by the NO_X authorized account representative: ''I am authorized to make this submission on behalf of the owners and operators of the NO_X Budget sources or NO_X Budget units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) The permitting authority and the Administrator will accept or act on a submission made on behalf of owner or operators of a NO_X Budget source or a NO_X Budget unit only if the submission has been made, signed, and certified in accordance with paragraph (e)(1) of this section.

§96.11 Alternate NO_X authorized account representative.

(a) An account certificate of representation may designate one and only one alternate NO_X authorized account representative who may act on behalf of the NO_X authorized account representative. The agreement by which the alternate NO_X authorized account representative is selected shall include a procedure for authorizing the alternate NO_X authorized account representative to act in lieu of the NO_X authorized account representative.

(b) Upon receipt by the Administrator of a complete account certificate of representation under §96.13, any representation, action, inaction, or submission by the alternate NO_X authorized account representative shall be deemed to be a representation, action, inaction, or submission by the NO_X authorized account representative.

(c) Except in this section and §§96.10(a), 96.12, 96.13, and 96.51, whenever the term ''NO_X authorized account representative'' is used in this part, the term shall be construed to include the alternate NO_X authorized account representative.

§96.12 Changing the NO_X authorized account representative and the alternate NO_X authorized account representative; changes in the owners and operators.

(a) *Changing the NO_X authorized account representative.* The NO_X authorized account representative may be changed at any time upon receipt by the Administrator of a superseding

complete account certificate of representation under § 96.13. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous NO_X authorized account representative prior to the time and date when the Administrator receives the superseding account certificate of representation shall be binding on the new NO_X authorized account representative and the owners and operators of the NO_X Budget source and the NO_X Budget units at the source.

(b) Changing the alternate NO_X authorized account representative. The alternate NO_X authorized account representative may be changed at any time upon receipt by the Administrator of a superseding complete account certificate of representation under § 96.13. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate NO_X authorized account representative prior to the time and date when the Administrator receives the superseding account certificate of representation shall be binding on the new alternate NO_X authorized account representative and the owners and operators of the NO_X Budget source and the NO_X Budget units at the source.

(c) *Changes in the owners and operators.* (1) In the event a new owner or operator of a NO_X Budget source or a NO_X Budget unit is not included in the list of owners and operators submitted in the account certificate of representation, such new owner or operator shall be deemed to be subject to and bound by the account certificate of representation, the representations, actions, inactions, and submissions of the NO_X authorized account representative and any alternate NO_X authorized account representative of the source or unit, and the decisions, orders, actions, and inactions of the permitting authority or the Administrator, as if the new owner or operator were included in such list.

(2) Within 30 days following any change in the owners and operators of a NO_X Budget source or a NO_X Budget unit, including the addition of a new owner or operator, the NO_X authorized account representative or alternate NO_X authorized account representative shall submit a revision to the account certificate of representation amending the list of owners and operators to include the change.

§ 96.13 Account certificate of representation.

(a) A complete account certificate of representation for a NO_X authorized account representative or an alternate NO_X authorized account representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the NO_X Budget source and each NO_X Budget unit at the source for which the account certificate of representation is submitted.

(2) The name, address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the NO_X authorized account representative and any alternate NO_X authorized account representative.

(3) A list of the owners and operators of the NO_X Budget source and of each NO_X Budget unit at the source.

(4) The following certification statement by the NO_X authorized account representative and any alternate NO_X authorized account representative: ''I certify that I was selected as the NO_X authorized account representative or alternate NO_X authorized account representative, as applicable, by an agreement binding on the owners and operators of the NO_X Budget source and each NO_X Budget unit at the source. I certify that I have all the necessary authority to carry out my duties and responsibilities under the NO_X Budget Trading Program on behalf of the owners and operators of the NO_X Budget source and of each NO_X Budget unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the permitting authority, the Administrator, or a court regarding the source or unit.''

(5) The signature of the NO_X authorized account representative and any alternate NO_X authorized account representative and the dates signed.

(b) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the account certificate of

representation shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

§96.14 Objections concerning the NO_X authorized account representative.

(a) Once a complete account certificate of representation under §96.13 has been submitted and received, the permitting authority and the Administrator will rely on the account certificate of representation unless and until a superseding complete account certificate of representation under §96.13 is received by the Administrator.

(b) Except as provided in §96.12(a) or (b), no objection or other communication submitted to the permitting authority or the Administrator concerning the authorization, or any representation, action, inaction, or submission of the NO_X authorized account representative shall affect any representation, action, inaction, or submission of the NO_X authorized account representative or the finality of any decision or order by the permitting authority or the Administrator under the NO_X Budget Trading Program.

(c) Neither the permitting authority nor the Administrator will adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any NO_X authorized account representative, including private legal disputes concerning the proceeds of NO_X allowance transfers.

Subpart C—Permits

§96.20 General NO_X Budget trading program permit requirements.

(a) For each NO_X Budget source required to have a federally enforceable permit, such permit shall include a NO_X Budget permit administered by the permitting authority.

(1) For NO_X Budget sources required to have a title V operating permit, the NO_X Budget portion of the title V permit shall be administered in accordance with the permitting authority's title V operating permits regulations promulgated under part 70 or 71 of this chapter, except as provided otherwise by this subpart or subpart I of this part. The applicable provisions of such title V operating permits regulations shall include, but are not limited to, those provisions addressing operating permit applications, operating permit application shield, operating permit duration, operating permit shield, operating permit issuance, operating permit revision and reopening, public participation, State review, and review by the Administrator.

(2) For NO_X Budget sources required to have a non-title V permit, the NO_X Budget portion of the non-title V permit shall be administered in accordance with the permitting authority's regulations promulgated to administer non-title V permits, except as provided otherwise by this subpart or subpart I of this part. The applicable provisions of such non-title V permits regulations may include, but are not limited to, provisions addressing permit applications, permit application shield, permit duration, permit shield, permit issuance, permit revision and reopening, public participation, State review, and review by the Administrator.

(b) Each NO_X Budget permit (including a draft or proposed NO_X Budget permit, if applicable) shall contain all applicable NO_X Budget Trading Program requirements and shall be a complete and segregable portion of the permit under paragraph (a) of this section.

§96.21 Submission of NO_X Budget permit applications.

(a) *Duty to apply*. The NO_X authorized account representative of any NO_X Budget source required to have a federally enforceable permit shall submit to the permitting authority a complete NO_X Budget permit application under §96.22 by the applicable deadline in paragraph (b) of this section.

(b)(1) For NO_X Budget sources required to have a title V operating permit:

(i) For any source, with one or more NO_X Budget units under §96.4 that commence operation before January 1, 2000, the NO_X authorized account representative shall submit a complete NO_X Budget permit application under §96.22 covering such NO_X Budget units to the permitting authority at least 18

months (or such lesser time provided under the permitting authority's title V operating permits regulations for final action on a permit application) before May 1, 2003.

(ii) For any source, with any NO_X Budget unit under § 96.4 that commences operation on or after January 1, 2000, the NO_X authorized account representative shall submit a complete NO_X Budget permit application under § 96.22 covering such NO_X Budget unit to the permitting authority at least 18 months (or such lesser time provided under the permitting authority's title V operating permits regulations for final action on a permit application) before the later of May 1, 2003 or the date on which the NO_X Budget unit commences operation.

(2) For NO_X Budget sources required to have a non-title V permit:

(i) For any source, with one or more NO_X Budget units under § 96.4 that commence operation before January 1, 2000, the NO_X authorized account representative shall submit a complete NO_X Budget permit application under § 96.22 covering such NO_X Budget units to the permitting authority at least 18 months (or such lesser time provided under the permitting authority's non-title V permits regulations for final action on a permit application) before May 1, 2003.

(ii) For any source, with any NO_X Budget unit under § 96.4 that commences operation on or after January 1, 2000, the NO_X authorized account representative shall submit a complete NO_X Budget permit application under § 96.22 covering such NO_X Budget unit to the permitting authority at least 18 months (or such lesser time provided under the permitting authority's non-title V permits regulations for final action on a permit application) before the later of May 1, 2003 or the date on which the NO_X Budget unit commences operation.

(c) *Duty to reapply*. (1) For a NO_X Budget source required to have a title V operating permit, the NO_X authorized account representative shall submit a complete NO_X Budget permit application under § 96.22 for the NO_X Budget source covering the NO_X Budget units at the source in accordance with the permitting authority's title V operating permits regulations addressing operating permit renewal.

(2) For a NO_X Budget source required to have a non-title V permit, the NO_X authorized account representative shall submit a complete NO_X Budget permit application under § 96.22 for the NO_X Budget source covering the NO_X Budget units at the source in accordance with the permitting authority's non-title V permits regulations addressing permit renewal.

§ 96.22 Information requirements for NO_X Budget permit applications.

A complete NO_X Budget permit application shall include the following elements concerning the NO_X Budget source for which the application is submitted, in a format prescribed by the permitting authority:

(a) Identification of the NO_X Budget source, including plant name and the ORIS (Office of Regulatory Information Systems) or facility code assigned to the source by the Energy Information Administration, if applicable;

(b) Identification of each NO_X Budget unit at the NO_X Budget source and whether it is a NO_X Budget unit under § 96.4 or under subpart I of this part;

(c) The standard requirements under § 96.6; and

(d) For each NO_X Budget opt-in unit at the NO_X Budget source, the following certification statements by the NO_X authorized account representative:

(1) ''I certify that each unit for which this permit application is submitted under subpart I of this part is not a NO_X Budget unit under 40 CFR 96.4 and is not covered by a retired unit exemption under 40 CFR 96.5 that is in effect.''

(2) If the application is for an initial NO_X Budget opt-in permit, ''I certify that each unit for which this permit application is submitted under subpart I is currently operating, as that term is defined under 40 CFR 96.2.''

§ 96.23 NO_X Budget permit contents.

(a) Each NO_X Budget permit (including any draft or proposed NO_X Budget permit, if applicable) will contain, in a format prescribed by the permitting authority, all elements required for a

complete NO_X Budget permit application under §96.22 as approved or adjusted by the permitting authority.

(b) Each NO_X Budget permit is deemed to incorporate automatically the definitions of terms under §96.2 and, upon recordation by the Administrator under subparts F, G, or I of this part, every allocation, transfer, or deduction of a NO_X allowance to or from the compliance accounts of the NO_X Budget units covered by the permit or the overdraft account of the NO_X Budget source covered by the permit.

§96.24 Effective date of initial NO_X Budget permit.

The initial NO_X Budget permit covering a NO_X Budget unit for which a complete NO_X Budget permit application is timely submitted under §96.21(b) shall become effective by the later of:

(a) May 1, 2003;

(b) May 1 of the year in which the NO_X Budget unit commences operation, if the unit commences operation on or before May 1 of that year;

(c) The date on which the NO_X Budget unit commences operation, if the unit commences operation during a control period; or

(d) May 1 of the year following the year in which the NO_X Budget unit commences operation, if the unit commences operation on or after October 1 of the year.

§96.25 NO_X Budget permit revisions.

(a) For a NO_X Budget source with a title V operating permit, except as provided in §96.23(b), the permitting authority will revise the NO_X Budget permit, as necessary, in accordance with the permitting authority's title V operating permits regulations addressing permit revisions.

(b) For a NO_X Budget source with a non-title V permit, except as provided in §96.23(b), the permitting authority will revise the NO_X Budget permit, as necessary, in accordance with the permitting authority's non-title V permits regulations addressing permit revisions.

Subpart D—Compliance Certification

§96.30 Compliance certification report.

(a) *Applicability and deadline.* For each control period in which one or more NO_X Budget units at a source are subject to the NO_X Budget emissions limitation, the NO_X authorized account representative of the source shall submit to the permitting authority and the Administrator by November 30 of that year, a compliance certification report for each source covering all such units.

(b) *Contents of report.* The NO_X authorized account representative shall include in the compliance certification report under paragraph (a) of this section the following elements, in a format prescribed by the Administrator, concerning each unit at the source and subject to the NO_X Budget emissions limitation for the control period covered by the report:

(1) Identification of each NO_X Budget unit;

(2) At the NO_X authorized account representative's option, the serial numbers of the NO_X allowances that are to be deducted from each unit's compliance account under §96.54 for the control period;

(3) At the NO_X authorized account representative's option, for units sharing a common stack and having NO_X emissions that are not monitored separately or apportioned in accordance with subpart H of this part, the percentage of allowances that is to be deducted from each unit's compliance account under §96.54(e); and

(4) The compliance certification under paragraph (c) of this section.

(c) *Compliance certification.* In the compliance certification report under paragraph (a) of this section, the NO_X authorized account representative shall certify, based on reasonable inquiry of those persons with primary responsibility for operating the source and the NO_X Budget units at the source in compliance with the NO_X Budget Trading Program, whether each NO_X Budget unit for which the compliance certification is submitted was operated during the calendar year covered by

the report in compliance with the requirements of the NO_X Budget Trading Program applicable to the unit, including:

(1) Whether the unit was operated in compliance with the NO_X Budget emissions limitation;

(2) Whether the monitoring plan that governs the unit has been maintained to reflect the actual operation and monitoring of the unit, and contains all information necessary to attribute NO_X emissions to the unit, in accordance with subpart H of this part;

(3) Whether all the NO_X emissions from the unit, or a group of units (including the unit) using a common stack, were monitored or accounted for through the missing data procedures and reported in the quarterly monitoring reports, including whether conditional data were reported in the quarterly reports in accordance with subpart H of this part. If conditional data were reported, the owner or operator shall indicate whether the status of all conditional data has been resolved and all necessary quarterly report resubmissions has been made;

(4) Whether the facts that form the basis for certification under subpart H of this part of each monitor at the unit or a group of units (including the unit) using a common stack, or for using an excepted monitoring method or alternative monitoring method approved under subpart H of this part, if any, has changed; and

(5) If a change is required to be reported under paragraph (c)(4) of this section, specify the nature of the change, the reason for the change, when the change occurred, and how the unit's compliance status was determined subsequent to the change, including what method was used to determine emissions when a change mandated the need for monitor recertification.

§ 96.31 Permitting authority's and Administrator's action on compliance certifications.

(a) The permitting authority or the Administrator may review and conduct independent audits concerning any compliance certification or any other submission under the NO_X Budget Trading Program and make appropriate adjustments of the information in the compliance certifications or other submissions.

(b) The Administrator may deduct NO_X allowances from or transfer NO_X allowances to a unit's compliance account or a source's overdraft account based on the information in the compliance certifications or other submissions, as adjusted under paragraph (a) of this section.

Subpart E—NO_X Allowance Allocations

§ 96.40 State trading program budget.

The State trading program budget allocated by the permitting authority under § 96.42 for a control period will equal the total number of tons of NO_X emissions apportioned to the NO_X Budget units under § 96.4 in the State for the control period, as determined by the applicable, approved State implementation plan.

§ 96.41 Timing requirements for NO_X allowance allocations.

(a) By September 30, 1999, the permitting authority will submit to the Administrator the NO_X allowance allocations, in accordance with § 96.42, for the control periods in 2003, 2004, and 2005.

(b) By April 1, 2003 and April 1 of each year thereafter, the permitting authority will submit to the Administrator the NO_X allowance allocations, in accordance with § 96.42, for the control period in the year that is three years after the year of the applicable deadline for submission under this paragraph (b). If the permitting authority fails to submit to the Administrator the NO_X allowance allocations in accordance with this paragraph (b), the Administrator will allocate, for the applicable control period, the same number of NO_X allowances as were allocated for the preceding control period.

(c) By April 1, 2004 and April 1 of each year thereafter, the permitting authority will submit to the Administrator the NO_X allowance allocations, in accordance with § 96.42, for any NO_X allowances remaining in the allocation set-aside for the prior control period.

§ 96.42 NO_X allowance allocations.

(a)(1) The heat input (in mmBtu) used for calculating NO_X allowance allocations for each NO_X Budget unit under § 96.4 will be:

(i) For a NO_X allowance allocation under § 96.41(a), the average of the two highest amounts of the unit's heat input for the control periods in 1995, 1996, and 1997 if the unit is under § 96.4(a)(1) or the control period in 1995 if the unit is under § 96.4(a)(2); and

(ii) For a NO_X allowance allocation under § 96.41(b), the unit's heat input for the control period in the year that is four years before the year for which the NO_X allocation is being calculated.

(2) The unit's total heat input for the control period in each year specified under paragraph (a)(1) of this section will be determined in accordance with part 75 of this chapter if the NO_X Budget unit was otherwise subject to the requirements of part 75 of this chapter for the year, or will be based on the best available data reported to the permitting authority for the unit if the unit was not otherwise subject to the requirements of part 75 of this chapter for the year.

(b) For each control period under § 96.41, the permitting authority will allocate to all NO_X Budget units under § 96.4(a)(1) in the State that commenced operation before May 1 of the period used to calculate heat input under paragraph (a)(1) of this section, a total number of NO_X allowances equal to 95 percent in 2003, 2004, and 2005, or 98 percent thereafter, of the tons of NO_X emissions in the State trading program budget apportioned to electric generating units under § 96.40 in accordance with the following procedures:

(1) The permitting authority will allocate NO_X allowances to each NO_X Budget unit under § 96.4(a)(1) in an amount equaling 0.15 lb/mmBtu multiplied by the heat input determined under paragraph (a) of this section, rounded to the nearest whole NO_X allowance as appropriate.

(2) If the initial total number of NO_X allowances allocated to all NO_X Budget units under § 96.4(a)(1) in the State for a control period under paragraph (b)(1) of this section does not equal 95 percent in 2003, 2004, and 2005, or 98 percent thereafter, of the number of tons of NO_X emissions in the State trading program budget apportioned to electric generating units, the permitting authority will adjust the total number of NO_X allowances allocated to all such NO_X Budget units for the control period under paragraph (b)(1) of this section so that the total number of NO_X allowances allocated equals 95 percent in 2003, 2004, and 2005, or 98 percent thereafter, of the number of tons of NO_X emissions in the State trading program budget apportioned to electric generating units. This adjustment will be made by: multiplying each unit's allocation by 95 percent in 2003, 2004, and 2005, or 98 percent thereafter, of the number of tons of NO_X emissions in the State trading program budget apportioned to electric generating units divided by the total number of NO_X allowances allocated under paragraph (b)(1) of this section, and rounding to the nearest whole NO_X allowance as appropriate.

(c) For each control period under § 96.41, the permitting authority will allocate to all NO_X Budget units under § 96.4(a)(2) in the State that commenced operation before May 1 of the period used to calculate heat input under paragraph (a)(1) of this section, a total number of NO_X allowances equal to 95 percent in 2003, 2004, and 2005, or 98 percent thereafter, of the tons of NO_X emissions in the State trading program budget apportioned to non-electric generating units under § 96.40 in accordance with the following procedures:

(1) The permitting authority will allocate NO_X allowances to each NO_X Budget unit under § 96.4(a)(2) in an amount equaling 0.17 lb/mmBtu multiplied by the heat input determined under paragraph (a) of this section, rounded to the nearest whole NO_X allowance as appropriate.

(2) If the initial total number of NO_X allowances allocated to all NO_X Budget units under § 96.4(a)(2) in the State for a control period under paragraph (c)(1) of this section does not equal 95 percent in 2003, 2004, and 2005, or 98 percent thereafter, of the number of tons of NO_X emissions in the State trading program budget apportioned to non-electric generating units, the permitting authority will adjust the total number of NO_X allowances allocated to

all such NO_X Budget units for the control period under paragraph (c)(1) of this section so that the total number of NO_X allowances allocated equals 95 percent in 2003, 2004, and 2005, or 98 percent thereafter, of the number of tons of NO_X emissions in the State trading program budget apportioned to non-electric generating units. This adjustment will be made by: multiplying each unit's allocation by 95 percent in 2003, 2004, and 2005, or 98 percent thereafter, of the number of tons of NO_X emissions in the State trading program budget apportioned to non-electric generating units divided by the total number of NO_X allowances allocated under paragraph (c)(1) of this section, and rounding to the nearest whole NO_X allowance as appropriate.

(d) For each control period under § 96.41, the permitting authority will allocate NO_X allowances to NO_X Budget units under § 96.4 in the State that commenced operation, or is projected to commence operation, on or after May 1 of the period used to calculate heat input under paragraph (a)(1) of this section, in accordance with the following procedures:

(1) The permitting authority will establish one allocation set-aside for each control period. Each allocation set-aside will be allocated NO_X allowances equal to 5 percent in 2003, 2004, and 2005, or 2 percent thereafter, of the tons of NO_X emissions in the State trading program budget under § 96.40, rounded to the nearest whole NO_X allowance as appropriate.

(2) The NO_X authorized account representative of a NO_X Budget unit under paragraph (d) of this section may submit to the permitting authority a request, in writing or in a format specified by the permitting authority, to be allocated NO_X allowances for no more than five consecutive control periods under § 96.41, starting with the control period during which the NO_X Budget unit commenced, or is projected to commence, operation and ending with the control period preceding the control period for which it will receive an allocation under paragraph (b) or (c) of this section. The NO_X allowance allocation request must be submitted prior to May 1 of the first control period for which the NO_X allowance allocation is requested and after the date on which the permitting authority issues a permit to construct the NO_X Budget unit.

(3) In a NO_X allowance allocation request under paragraph (d)(2) of this section, the NO_X authorized account representative for units under § 96.4(a)(1) may request for a control period NO_X allowances in an amount that does not exceed 0.15 lb/mmBtu multiplied by the NO_X Budget unit's maximum design heat input (in mmBtu/hr) multiplied by the number of hours remaining in the control period starting with the first day in the control period on which the unit operated or is projected to operate.

(4) In a NO_X allowance allocation request under paragraph (d)(2) of this section, the NO_X authorized account representative for units under § 96.4(a)(2) may request for a control period NO_X allowances in an amount that does not exceed 0.17 lb/mmBtu multiplied by the NO_X Budget unit's maximum design heat input (in mmBtu/hr) multiplied by the number of hours remaining in the control period starting with the first day in the control period on which the unit operated or is projected to operate.

(5) The permitting authority will review, and allocate NO_X allowances pursuant to, each NO_X allowance allocation request under paragraph (d)(2) of this section in the order that the request is received by the permitting authority.

(i) Upon receipt of the NO_X allowance allocation request, the permitting authority will determine whether, and will make any necessary adjustments to the request to ensure that, for units under § 96.4(a)(1), the control period and the number of allowances specified are consistent with the requirements of paragraphs (d)(2) and (3) of this section and, for units under § 96.4(a)(2), the control period and the number of allowances specified are consistent with the requirements of paragraphs (d)(2) and (4) of this section.

(ii) If the allocation set-aside for the control period for which NO_X allowances are requested has an amount of NO_X allowances not less than the number requested (as adjusted under paragraph (d)(5)(i) of this section), the permitting authority will allocate the

amount of the NO_X allowances requested (as adjusted under paragraph (d)(5)(i) of this section) to the NO_X Budget unit.

(iii) If the allocation set-aside for the control period for which NO_X allowances are requested has a smaller amount of NO_X allowances than the number requested (as adjusted under paragraph (d)(5)(i) of this section), the permitting authority will deny in part the request and allocate only the remaining number of NO_X allowances in the allocation set-aside to the NO_X Budget unit.

(iv) Once an allocation set-aside for a control period has been depleted of all NO_X allowances, the permitting authority will deny, and will not allocate any NO_X allowances pursuant to, any NO_X allowance allocation request under which NO_X allowances have not already been allocated for the control period.

(6) Within 60 days of receipt of a NO_X allowance allocation request, the permitting authority will take appropriate action under paragraph (d)(5) of this section and notify the NO_X authorized account representative that submitted the request and the Administrator of the number of NO_X allowances (if any) allocated for the control period to the NO_X Budget unit.

(e) For a NO_X Budget unit that is allocated NO_X allowances under paragraph (d) of this section for a control period, the Administrator will deduct NO_X allowances under §96.54(b) or (e) to account for the actual utilization of the unit during the control period. The Administrator will calculate the number of NO_X allowances to be deducted to account for the unit's actual utilization using the following formulas and rounding to the nearest whole NO_X allowance as appropriate, provided that the number of NO_X allowances to be deducted shall be zero if the number calculated is less than zero:

NO_X allowances deducted for actual utilization for units under §96.4(a)(1) = (Unit's NO_X allowances allocated for control period) − (Unit's actual control period utilization × 0.15 lb/mmBtu); and

NO_X allowances deducted for actual utilization for units under §96.4(a)(2) = (Unit's NO_X allowances allocated for control period) − (Unit's actual control period utilization × 0.17 lb/mmBtu)

Where:

''Unit's NO_X allowances allocated for control period'' is the number of NO_X allowances allocated to the unit for the control period under paragraph (d) of this section; and

''Unit's actual control period utilization'' is the utilization (in mmBtu), as defined in §96.2, of the unit during the control period.

(f) After making the deductions for compliance under §96.54(b) or (e) for a control period, the Administrator will notify the permitting authority whether any NO_X allowances remain in the allocation set-aside for the control period. The permitting authority will allocate any such NO_X allowances to the NO_X Budget units in the State using the following formula and rounding to the nearest whole NO_X allowance as appropriate:

Unit's share of NO_X allowances remaining in allocation set-aside = Total NO_X allowances remaining in allocation set-aside × (Unit's NO_X allowance allocation ÷ State trading program budget excluding allocation set-aside)

Where:

''Total NO_X allowances remaining in allocation set-aside'' is the total number of NO_X allowances remaining in the allocation set-aside for the control period to which the allocation set-aside applies;

''Unit's NO_X allowance allocation'' is the number of NO_X allowances allocated under paragraph (b) or (c) of this section to the unit for the control period to which the allocation set-aside applies; and

''State trading program budget excluding allocation set-aside'' is the State trading program budget under §96.40 for the control period to which the allocation set-aside applies multiplied by 95 percent if the control period is in 2003, 2004, or 2005 or 98 percent if the control period is in any year thereafter, rounded to the nearest whole NO_X allowance as appropriate.

[63 FR 57514, Oct. 27, 1998, as amended at 63 FR 71225, Dec. 24, 1998]

Subpart F—NO_X Allowance Tracking System

§ 96.50 NO_X Allowance Tracking System accounts.

(a) *Nature and function of compliance accounts and overdraft accounts.* Consistent with § 96.51(a), the Administrator will establish one compliance account for each NO_X Budget unit and one overdraft account for each source with one or more NO_X Budget units. Allocations of NO_X allowances pursuant to subpart E of this part or § 96.88 and deductions or transfers of NO_X allowances pursuant to § 96.31, § 96.54, § 96.56, subpart G of this part, or subpart I of this part will be recorded in the compliance accounts or overdraft accounts in accordance with this subpart.

(b) *Nature and function of general accounts.* Consistent with § 96.51(b), the Administrator will establish, upon request, a general account for any person. Transfers of allowances pursuant to subpart G of this part will be recorded in the general account in accordance with this subpart.

§ 96.51 Establishment of accounts.

(a) *Compliance accounts and overdraft accounts.* Upon receipt of a complete account certificate of representation under § 96.13, the Administrator will establish:

(1) A compliance account for each NO_X Budget unit for which the account certificate of representation was submitted; and

(2) An overdraft account for each source for which the account certificate of representation was submitted and that has two or more NO_X Budget units.

(b) *General accounts.* (1) Any person may apply to open a general account for the purpose of holding and transferring allowances. A complete application for a general account shall be submitted to the Administrator and shall include the following elements in a format prescribed by the Administrator:

(i) Name, mailing address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the NO_X authorized account representative and any alternate NO_X authorized account representative;

(ii) At the option of the NO_X authorized account representative, organization name and type of organization;

(iii) A list of all persons subject to a binding agreement for the NO_X authorized account representative or any alternate NO_X authorized account representative to represent their ownership interest with respect to the allowances held in the general account;

(iv) The following certification statement by the NO_X authorized account representative and any alternate NO_X authorized account representative: ''I certify that I was selected as the NO_X authorized account representative or the NO_X alternate authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the NO_X Budget Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any order or decision issued to me by the Administrator or a court regarding the general account.''

(v) The signature of the NO_X authorized account representative and any alternate NO_X authorized account representative and the dates signed.

(vi) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the account certificate of representation shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section:

(i) The Administrator will establish a general account for the person or persons for whom the application is submitted.

(ii) The NO_X authorized account representative and any alternate NO_X authorized account representative for the general account shall represent and, by

his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to NO_X allowances held in the general account in all matters pertaining to the NO_X Budget Trading Program, not withstanding any agreement between the NO_X authorized account representative or any alternate NO_X authorized account representative and such person. Any such person shall be bound by any order or decision issued to the NO_X authorized account representative or any alternate NO_X authorized account representative by the Administrator or a court regarding the general account.

(iii) Each submission concerning the general account shall be submitted, signed, and certified by the NO_X authorized account representative or any alternate NO_X authorized account representative for the persons having an ownership interest with respect to NO_X allowances held in the general account. Each such submission shall include the following certification statement by the NO_X authorized account representative or any alternate NO_X authorized account representative any: ''I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the NO_X allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(iv) The Administrator will accept or act on a submission concerning the general account only if the submission has been made, signed, and certified in accordance with paragraph (b)(2)(iii) of this section.

(3)(i) An application for a general account may designate one and only one NO_X authorized account representative and one and only one alternate NO_X authorized account representative who may act on behalf of the NO_X authorized account representative. The agreement by which the alternate NO_X authorized account representative is selected shall include a procedure for authorizing the alternate NO_X authorized account representative to act in lieu of the NO_X authorized account representative.

(ii) Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section, any representation, action, inaction, or submission by any alternate NO_X authorized account representative shall be deemed to be a representation, action, inaction, or submission by the NO_X authorized account representative.

(4)(i) The NO_X authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous NO_X authorized account representative prior to the time and date when the Administrator receives the superseding application for a general account shall be binding on the new NO_X authorized account representative and the persons with an ownership interest with respect to the allowances in the general account.

(ii) The alternate NO_X authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate NO_X authorized account representative prior to the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate NO_X authorized account representative and the persons with an ownership interest with respect to the allowances in the general account.

(iii)(A) In the event a new person having an ownership interest with respect to NO_X allowances in the general account is not included in the list of such persons in the account certificate of representation, such new person shall be deemed to be subject to and bound by the account certificate of representation, the representation, actions, inactions, and submissions of the NO_X authorized account representative and any alternate NO_X authorized account representative of the source or unit, and the decisions, orders, actions, and inactions of the Administrator, as if the new person were included in such list.

(B) Within 30 days following any change in the persons having an ownership interest with respect to NO_X allowances in the general account, including the addition of persons, the NO_X authorized account representative or any alternate NO_X authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the NO_X allowances in the general account to include the change.

(5)(i) Once a complete application for a general account under paragraph (b)(1) of this section has been submitted and received, the Administrator will rely on the application unless and until a superseding complete application for a general account under paragraph (b)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (b)(4) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the NO_X authorized account representative or any alternate NO_X authorized account representative for a general account shall affect any representation, action, inaction, or submission of the NO_X authorized account representative or any alternate NO_X authorized account representative or the finality of any decision or order by the Administrator under the NO_X Budget Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the NO_X authorized account representative or any alternate NO_X authorized account representative for a general account, including private legal disputes concerning the proceeds of NO_X allowance transfers.

(c) *Account identification.* The Administrator will assign a unique identifying number to each account established under paragraph (a) or (b) of this section.

§ 96.52 NO_X Allowance Tracking System responsibilities of NO_X authorized account representative.

(a) Following the establishment of a NO_X Allowance Tracking System account, all submissions to the Administrator pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of NO_X allowances in the account, shall be made only by the NO_X authorized account representative for the account.

(b) *Authorized account representative identification.* The Administrator will assign a unique identifying number to each NO_X authorized account representative.

§ 96.53 Recordation of NO_X allowance allocations.

(a) The Administrator will record the NO_X allowances for 2003 in the NO_X Budget units' compliance accounts and the allocation set-asides, as allocated under subpart E of this part. The Administrator will also record the NO_X allowances allocated under § 96.88(a)(1) for each NO_X Budget opt-in source in its compliance account.

(b) Each year, after the Administrator has made all deductions from a NO_X Budget unit's compliance account and the overdraft account pursuant to § 96.54, the Administrator will record NO_X allowances, as allocated to the unit under subpart E of this part or under § 96.88(a)(2), in the compliance account for the year after the last year for which allowances were previously allocated to the compliance account. Each year, the Administrator will also record NO_X allowances, as allocated under subpart E of this part, in the allocation set-aside for the year after the last year for which allowances were

previously allocated to an allocation set-aside.

(c) *Serial numbers for allocated NO_X allowances.* When allocating NO_X allowances to and recording them in an account, the Administrator will assign each NO_X allowance a unique identification number that will include digits identifying the year for which the NO_X allowance is allocated.

§ 96.54 Compliance.

(a) *NO_X allowance transfer deadline.* The NO_X allowances are available to be deducted for compliance with a unit's NO_X Budget emissions limitation for a control period in a given year only if the NO_X allowances:

(1) Were allocated for a control period in a prior year or the same year; and

(2) Are held in the unit's compliance account, or the overdraft account of the source where the unit is located, as of the NO_X allowance transfer deadline for that control period or are transferred into the compliance account or overdraft account by a NO_X allowance transfer correctly submitted for recordation under § 96.60 by the NO_X allowance transfer deadline for that control period.

(b) *Deductions for compliance.* (1) Following the recordation, in accordance with § 96.61, of NO_X allowance transfers submitted for recordation in the unit's compliance account or the overdraft account of the source where the unit is located by the NO_X allowance transfer deadline for a control period, the Administrator will deduct NO_X allowances available under paragraph (a) of this section to cover the unit's NO_X emissions (as determined in accordance with subpart H of this part), or to account for actual utilization under § 96.42(e), for the control period:

(i) From the compliance account; and

(ii) Only if no more NO_X allowances available under paragraph (a) of this section remain in the compliance account, from the overdraft account. In deducting allowances for units at the source from the overdraft account, the Administrator will begin with the unit having the compliance account with the lowest NO_X Allowance Tracking System account number and end with the unit having the compliance account with the highest NO_X Allowance Tracking System account number (with account numbers sorted beginning with the left-most character and ending with the right-most character and the letter characters assigned values in alphabetical order and less than all numeric characters).

(2) The Administrator will deduct NO_X allowances first under paragraph (b)(1)(i) of this section and then under paragraph (b)(1)(ii) of this section:

(i) Until the number of NO_X allowances deducted for the control period equals the number of tons of NO_X emissions, determined in accordance with subpart H of this part, from the unit for the control period for which compliance is being determined, plus the number of NO_X allowances required for deduction to account for actual utilization under § 96.42(e) for the control period; or

(ii) Until no more NO_X allowances available under paragraph (a) of this section remain in the respective account.

(c)(1) *Identification of NO_X allowances by serial number.* The NO_X authorized account representative for each compliance account may identify by serial number the NO_X allowances to be deducted from the unit's compliance account under paragraph (b), (d), or (e) of this section. Such identification shall be made in the compliance certification report submitted in accordance with § 96.30.

(2) *First-in, first-out.* The Administrator will deduct NO_X allowances for a control period from the compliance account, in the absence of an identification or in the case of a partial identification of NO_X allowances by serial number under paragraph (c)(1) of this section, or the overdraft account on a first-in, first-out (FIFO) accounting basis in the following order:

(i) Those NO_X allowances that were allocated for the control period to the unit under subpart E or I of this part;

(ii) Those NO_X allowances that were allocated for the control period to any unit and transferred and recorded in the account pursuant to subpart G of this part, in order of their date of recordation;

(iii) Those NO_X allowances that were allocated for a prior control period to

the unit under subpart E or I of this part; and

(iv) Those NO_X allowances that were allocated for a prior control period to any unit and transferred and recorded in the account pursuant to subpart G of this part, in order of their date of recordation.

(d) *Deductions for excess emissions.* (1) After making the deductions for compliance under paragraph (b) of this section, the Administrator will deduct from the unit's compliance account or the overdraft account of the source where the unit is located a number of NO_X allowances, allocated for a control period after the control period in which the unit has excess emissions, equal to three times the number of the unit's excess emissions.

(2) If the compliance account or overdraft account does not contain sufficient NO_X allowances, the Administrator will deduct the required number of NO_X allowances, regardless of the control period for which they were allocated, whenever NO_X allowances are recorded in either account.

(3) Any allowance deduction required under paragraph (d) of this section shall not affect the liability of the owners and operators of the NO_X Budget unit for any fine, penalty, or assessment, or their obligation to comply with any other remedy, for the same violation, as ordered under the CAA or applicable State law. The following guidelines will be followed in assessing fines, penalties or other obligations:

(i) For purposes of determining the number of days of violation, if a NO_X Budget unit has excess emissions for a control period, each day in the control period (153 days) constitutes a day in violation unless the owners and operators of the unit demonstrate that a lesser number of days should be considered.

(ii) Each ton of excess emissions is a separate violation.

(e) *Deductions for units sharing a common stack.* In the case of units sharing a common stack and having emissions that are not separately monitored or apportioned in accordance with subpart H of this part:

(1) The NO_X authorized account representative of the units may identify the percentage of NO_X allowances to be deducted from each such unit's compliance account to cover the unit's share of NO_X emissions from the common stack for a control period. Such identification shall be made in the compliance certification report submitted in accordance with § 96.30.

(2) Notwithstanding paragraph (b)(2)(i) of this section, the Administrator will deduct NO_X allowances for each such unit until the number of NO_X allowances deducted equals the unit's identified percentage (under paragraph (e)(1) of this section) of the number of tons of NO_X emissions, as determined in accordance with subpart H of this part, from the common stack for the control period for which compliance is being determined or, if no percentage is identified, an equal percentage for each such unit, plus the number of allowances required for deduction to account for actual utilization under § 96.42(e) for the control period.

(f) The Administrator will record in the appropriate compliance account or overdraft account all deductions from such an account pursuant to paragraphs (b), (d), or (e) of this section.

§ 96.55 Banking.

(a) NO_X allowances may be banked for future use or transfer in a compliance account, an overdraft account, or a general account, as follows:

(1) Any NO_X allowance that is held in a compliance account, an overdraft account, or a general account will remain in such account unless and until the NO_X allowance is deducted or transferred under § 96.31, § 96.54, § 96.56, subpart G of this part, or subpart I of this part.

(2) The Administrator will designate, as a ''banked'' NO_X allowance, any NO_X allowance that remains in a compliance account, an overdraft account, or a general account after the Administrator has made all deductions for a given control period from the compliance account or overdraft account pursuant to § 96.54.

(b) Each year starting in 2004, after the Administrator has completed the designation of banked NO_X allowances under paragraph (a)(2) of this section and before May 1 of the year, the Administrator will determine the extent to which banked NO_X allowances may

be used for compliance in the control period for the current year, as follows:

(1) The Administrator will determine the total number of banked NO_X allowances held in compliance accounts, overdraft accounts, or general accounts.

(2) If the total number of banked NO_X allowances determined, under paragraph (b)(1) of this section, to be held in compliance accounts, overdraft accounts, or general accounts is less than or equal to 10% of the sum of the State trading program budgets for the control period for the States in which NO_X Budget units are located, any banked NO_X allowance may be deducted for compliance in accordance with §96.54.

(3) If the total number of banked NO_X allowances determined, under paragraph (b)(1) of this section, to be held in compliance accounts, overdraft accounts, or general accounts exceeds 10% of the sum of the State trading program budgets for the control period for the States in which NO_X Budget units are located, any banked allowance may be deducted for compliance in accordance with §96.54, except as follows:

(i) The Administrator will determine the following ratio: 0.10 multiplied by the sum of the State trading program budgets for the control period for the States in which NO_X Budget units are located and divided by the total number of banked NO_X allowances determined, under paragraph (b)(1) of this section, to be held in compliance accounts, overdraft accounts, or general accounts.

(ii) The Administrator will multiply the number of banked NO_X allowances in each compliance account or overdraft account. The resulting product is the number of banked NO_X allowances in the account that may be deducted for compliance in accordance with §96.54. Any banked NO_X allowances in excess of the resulting product may be deducted for compliance in accordance with §96.54, except that, if such NO_X allowances are used to make a deduction, two such NO_X allowances must be deducted for each deduction of one NO_X allowance required under §96.54.

(c) Any NO_X Budget unit may reduce its NO_X emission rate in the 2001 or 2002 control period, the owner or operator of the unit may request early reduction credits, and the permitting authority may allocate NO_X allowances in 2003 to the unit in accordance with the following requirements.

(1) Each NO_X Budget unit for which the owner or operator requests any early reduction credits under paragraph (c)(4) of this section shall monitor NO_X emissions in accordance with subpart H of this part starting in the 2000 control period and for each control period for which such early reduction credits are requested. The unit's monitoring system availability shall be not less than 90 percent during the 2000 control period, and the unit must be in compliance with any applicable State or Federal emissions or emissions-related requirements.

(2) NO_X emission rate and heat input under paragraphs (c)(3) through (5) of this section shall be determined in accordance with subpart H of this part.

(3) Each NO_X Budget unit for which the owner or operator requests any early reduction credits under paragraph (c)(4) of this section shall reduce its NO_X emission rate, for each control period for which early reduction credits are requested, to less than both 0.25 lb/mmBtu and 80 percent of the unit's NO_X emission rate in the 2000 control period.

(4) The NO_X authorized account representative of a NO_X Budget unit that meets the requirements of paragraphs (c)(1)and (3) of this section may submit to the permitting authority a request for early reduction credits for the unit based on NO_X emission rate reductions made by the unit in the control period for 2001 or 2002 in accordance with paragraph (c)(3) of this section.

(i) In the early reduction credit request, the NO_X authorized account may request early reduction credits for such control period in an amount equal to the unit's heat input for such control period multiplied by the difference between 0.25 lb/mmBtu and the unit's NO_X emission rate for such control period, divided by 2000 lb/ton, and rounded to the nearest ton.

(ii) The early reduction credit request must be submitted, in a format specified by the permitting authority, by October 31 of the year in which the NO_X emission rate reductions on which

the request is based are made or such later date approved by the permitting authority.

(5) The permitting authority will allocate NO_X allowances, to NO_X Budget units meeting the requirements of paragraphs (c)(1) and (3) of this section and covered by early reduction requests meeting the requirements of paragraph (c)(4)(ii) of this section, in accordance with the following procedures:

(i) Upon receipt of each early reduction credit request, the permitting authority will accept the request only if the requirements of paragraphs (c)(1), (c)(3), and (c)(4)(ii) of this section are met and, if the request is accepted, will make any necessary adjustments to the request to ensure that the amount of the early reduction credits requested meets the requirement of paragraphs (c)(2) and (4) of this section.

(ii) If the State's compliance supplement pool has an amount of NO_X allowances not less than the number of early reduction credits in all accepted early reduction credit requests for 2001 and 2002 (as adjusted under paragraph (c)(5)(i) of this section), the permitting authority will allocate to each NO_X Budget unit covered by such accepted requests one allowance for each early reduction credit requested (as adjusted under paragraph (c)(5)(i) of this section).

(iii) If the State's compliance supplement pool has a smaller amount of NO_X allowances than the number of early reduction credits in all accepted early reduction credit requests for 2001 and 2002 (as adjusted under paragraph (c)(5)(i) of this section), the permitting authority will allocate NO_X allowances to each NO_X Budget unit covered by such accepted requests according to the following formula:

Unit's allocated early reduction credits = [(Unit's adjusted early reduction credits) / (Total adjusted early reduction credits requested by all units)]×(Available NO_X allowances from the State's compliance supplement pool)

where:

''Unit's adjusted early reduction credits'' is the number of early reduction credits for the unit for 2001 and 2002 in accepted early reduction credit requests, as adjusted under paragraph (c)(5)(i) of this section.

''Total adjusted early reduction credits requested by all units'' is the number of early reduction credits for all units for 2001 and 2002 in accepted early reduction credit requests, as adjusted under paragraph (c)(5)(i) of this section.

''Available NO_X allowances from the State's compliance supplement pool'' is the number of NO_X allowances in the State's compliance supplement pool and available for early reduction credits for 2001 and 2002.

(6) By May 1, 2003, the permitting authority will submit to the Administrator the allocations of NO_X allowances determined under paragraph (c)(5) of this section. The Administrator will record such allocations to the extent that they are consistent with the requirements of paragraphs (c)(1) through (5) of this section.

(7) NO_X allowances recorded under paragraph (c)(6) of this section may be deducted for compliance under § 96.54 for the control periods in 2003 or 2004. Notwithstanding paragraph (a) of this section, the Administrator will deduct as retired any NO_X allowance that is recorded under paragraph (c)(6) of this section and is not deducted for compliance in accordance with § 96.54 for the control period in 2003 or 2004.

(8) NO_X allowances recorded under paragraph (c)(6) of this section are treated as banked allowances in 2004 for the purposes of paragraphs (a) and (b) of this section.

§ 96.56 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any NO_X Allowance Tracking System account. Within 10 business days of making such correction, the Administrator will notify the NO_X authorized account representative for the account.

§ 96.57 Closing of general accounts.

(a) The NO_X authorized account representative of a general account may instruct the Administrator to close the account by submitting a statement requesting deletion of the account from the NO_X Allowance Tracking System and by correctly submitting for recordation under § 96.60 an allowance transfer of all NO_X allowances in the

account to one or more other NO_X Allowance Tracking System accounts.

(b) If a general account shows no activity for a period of a year or more and does not contain any NO_X allowances, the Administrator may notify the NO_X authorized account representative for the account that the account will be closed and deleted from the NO_X Allowance Tracking System following 20 business days after the notice is sent. The account will be closed after the 20-day period unless before the end of the 20-day period the Administrator receives a correctly submitted transfer of NO_X allowances into the account under §96.60 or a statement submitted by the NO_X authorized account representative demonstrating to the satisfaction of the Administrator good cause as to why the account should not be closed.

Subpart G—NO_X Allowance Transfers

§96.60 Submission of NO_X allowance transfers.

The NO_X authorized account representatives seeking recordation of a NO_X allowance transfer shall submit the transfer to the Administrator. To be considered correctly submitted, the NO_X allowance transfer shall include the following elements in a format specified by the Administrator:

(a) The numbers identifying both the transferor and transferee accounts;

(b) A specification by serial number of each NO_X allowance to be transferred; and

(c) The printed name and signature of the NO_X authorized account representative of the transferor account and the date signed.

§96.61 EPA recordation.

(a) Within 5 business days of receiving a NO_X allowance transfer, except as provided in paragraph (b) of this section, the Administrator will record a NO_X allowance transfer by moving each NO_X allowance from the transferor account to the transferee account as specified by the request, provided that:

(1) The transfer is correctly submitted under §96.60;

(2) The transferor account includes each NO_X allowance identified by serial number in the transfer; and

(3) The transfer meets all other requirements of this part.

(b) A NO_X allowance transfer that is submitted for recordation following the NO_X allowance transfer deadline and that includes any NO_X allowances allocated for a control period prior to or the same as the control period to which the NO_X allowance transfer deadline applies will not be recorded until after completion of the process of recordation of NO_X allowance allocations in §96.53(b).

(c) Where a NO_X allowance transfer submitted for recordation fails to meet the requirements of paragraph (a) of this section, the Administrator will not record such transfer.

§96.62 Notification.

(a) *Notification of recordation.* Within 5 business days of recordation of a NO_X allowance transfer under §96.61, the Administrator will notify each party to the transfer. Notice will be given to the NO_X authorized account representatives of both the transferror and transferee accounts.

(b) *Notification of non-recordation.* Within 10 business days of receipt of a NO_X allowance transfer that fails to meet the requirements of §96.61(a), the Administrator will notify the NO_X authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer, and (2) The reasons for such non-recordation.

(c) Nothing in this section shall preclude the submission of a NO_X allowance transfer for recordation following notification of non-recordation.

Subpart H—Monitoring and Reporting

§96.70 General requirements.

The owners and operators, and to the extent applicable, the NO_X authorized account representative of a NO_X Budget unit, shall comply with the monitoring and reporting requirements as provided in this subpart and in subpart

H of part 75 of this chapter. For purposes of complying with such requirements, the definitions in § 96.2 and in § 72.2 of this chapter shall apply, and the terms ''affected unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') in part 75 of this chapter shall be replaced by the terms ''NO_X Budget unit,'' ''NO_X authorized account representative,'' and ''continuous emission monitoring system'' (or ''CEMS''), respectively, as defined in § 96.2.

(a) *Requirements for installation, certification, and data accounting.* The owner or operator of each NO_X Budget unit must meet the following requirements. These provisions also apply to a unit for which an application for a NO_X Budget opt-in permit is submitted and not denied or withdrawn, as provided in subpart I of this part:

(1) Install all monitoring systems required under this subpart for monitoring NO_X mass. This includes all systems required to monitor NO_X emission rate, NO_X concentration, heat input, and flow, in accordance with §§ 75.72 and 75.76.

(2) Install all monitoring systems for monitoring heat input, if required under § 96.76 for developing NO_X allowance allocations.

(3) Successfully complete all certification tests required under § 96.71 and meet all other provisions of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraphs (a)(1) and (2) of this section.

(4) Record, and report data from the monitoring systems under paragraphs (a)(1) and (2) of this section.

(b) *Compliance dates.* The owner or operator must meet the requirements of paragraphs (a)(1) through (a)(3) of this section on or before the following dates and must record and report data on and after the following dates:

(1) NO_X Budget units for which the owner or operator intends to apply for early reduction credits under § 96.55(d) must comply with the requirements of this subpart by May 1, 2000.

(2) Except for NO_X Budget units under paragraph (b)(1) of this section, NO_X Budget units under § 96.4 that commence operation before January 1, 2002, must comply with the requirements of this subpart by May 1, 2002.

(3) NO_X Budget units under § 96.4 that commence operation on or after January 1, 2002 and that report on an annual basis under § 96.74(d) must comply with the requirements of this subpart by the later of the following dates:

(i) May 1, 2002; or

(ii) The earlier of:

(A) 180 days after the date on which the unit commences operation or, (B) For units under § 96.4(a)(1), 90 days after the date on which the unit commences commercial operation.

(4) NO_X Budget units under § 96.4 that commence operation on or after January 1, 2002 and that report on a control season basis under § 96.74(d) must comply with the requirements of this subpart by the later of the following dates:

(i) The earlier of:

(A) 180 days after the date on which the unit commences operation or,

(B) For units under § 96.4(a)(1), 90 days after the date on which the unit commences commercial operation.

(ii) However, if the applicable deadline under paragraph (b)(4)(i) section does not occur during a control period, May 1; immediately following the date determined in accordance with paragraph (b)(4)(i) of this section.

(5) For a NO_X Budget unit with a new stack or flue for which construction is completed after the applicable deadline under paragraph (b)(1), (b)(2) or (b)(3) of this section or subpart I of this part:

(i) 90 days after the date on which emissions first exit to the atmosphere through the new stack or flue;

(ii) However, if the unit reports on a control season basis under § 96.74(d) and the applicable deadline under paragraph (b)(5)(i) of this section does not occur during the control period, May 1 immediately following the applicable deadline in paragraph (b)(5)(i) of this section.

(6) For a unit for which an application for a NO_X Budget opt in permit is submitted and not denied or withdrawn, the compliance dates specified under subpart I of this part.

(c) *Reporting data prior to initial certification.* (1) The owner or operator of a NO_X Budget unit that misses the certification deadline under paragraph (b)(1) of this section is not eligible to apply for early reduction credits. The owner or operator of the unit becomes

subject to the certification deadline under paragraph (b)(2) of this section.

(2) The owner or operator of a NO_X Budget under paragraphs (b)(3) or (b)(4) of this section must determine, record and report NO_X mass, heat input (if required for purposes of allocations) and any other values required to determine NO_X Mass (e.g. NO_X emission rate and heat input or NO_X concentration and stack flow) using the provisions of §75.70(g) of this chapter, from the date and hour that the unit starts operating until all required certification tests are successfully completed.

(d) *Prohibitions.* (1) No owner or operator of a NO_X Budget unit or a non-NO_X Budget unit monitored under §75.72(b)(2)(ii) shall use any alternative monitoring system, alternative reference method, or any other alternative for the required continuous emission monitoring system without having obtained prior written approval in accordance with §96.75.

(2) No owner or operator of a NO_X Budget unit or a non-NO_X Budget unit monitored under §75.72(b)(2)(ii) shall operate the unit so as to discharge, or allow to be discharged, NO_X emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of this subpart and part 75 of this chapter except as provided for in §75.74 of this chapter.

(3) No owner or operator of a NO_X Budget unit or a non-NO_X Budget unit monitored under §75.72(b)(2)(ii) shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording NO_X mass emissions discharged into the atmosphere, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter except as provided for in §75.74 of this chapter.

(4) No owner or operator of a NO_X Budget unit or a non-NO_X Budget unit monitored under §75.72(b)(2)(ii) shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved emission monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by a retired unit exemption under §96.5 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the permitting authority for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The NO_X authorized account representative submits notification of the date of certification testing of a replacement monitoring system in accordance with §96.71(b)(2).

§96.71 Initial certification and recertification procedures.

(a) The owner or operator of a NO_X Budget unit that is subject to an Acid Rain emissions limitation shall comply with the initial certification and recertification procedures of part 75 of this chapter, except that:

(1) If, prior to January 1, 1998, the Administrator approved a petition under §75.17(a) or (b) of this chapter for apportioning the NO_X emission rate measured in a common stack or a petition under §75.66 of this chapter for an alternative to a requirement in §75.17 of this chapter, the NO_X authorized account representative shall resubmit the petition to the Administrator under §96.75(a) to determine if the approval applies under the NO_X Budget Trading Program.

(2) For any additional CEMS required under the common stack provisions in §75.72 of this chapter, or for any NO_X concentration CEMS used under the provisions of §75.71(a)(2) of this chapter, the owner or operator shall meet the requirements of paragraph (b) of this section.

(b) The owner or operator of a NO_X Budget unit that is not subject to an Acid Rain emissions limitation shall comply with the following initial certification and recertification procedures, except that the owner or operator of a unit that qualifies to use the

low mass emissions excepted monitoring methodology under § 75.19 shall also meet the requirements of paragraph (c) of this section and the owner or operator of a unit that qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall also meet the requirements of paragraph (d) of this section. The owner or operator of a NO_X Budget unit that is subject to an Acid Rain emissions limitation, but requires additional CEMS under the common stack provisions in § 75.72 of this chapter, or that uses a NO_X concentration CEMS under § 75.71(a)(2) of this chapter also shall comply with the following initial certification and recertification procedures.

(1) *Requirements for initial certification.* The owner or operator shall ensure that each monitoring system required by subpart H of part 75 of this chapter (which includes the automated data acquisition and handling system) successfully completes all of the initial certification testing required under § 75.20 of this chapter. The owner or operator shall ensure that all applicable certification tests are successfully completed by the deadlines specified in § 96.70(b). In addition, whenever the owner or operator installs a monitoring system in order to meet the requirements of this part in a location where no such monitoring system was previously installed, initial certification according to § 75.20 is required.

(2) *Requirements for recertification.* Whenever the owner or operator makes a replacement, modification, or change in a certified monitoring system that the Administrator or the permitting authority determines significantly affects the ability of the system to accurately measure or record NO_X mass emissions or heat input or to meet the requirements of § 75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the monitoring system according to § 75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that the Administrator or the permitting authority determines to significantly change the flow or concentration profile, the owner or operator shall recertify the continuous emissions monitoring system according to § 75.20(b) of this chapter. Examples of changes which require recertification include: replacement of the analyzer, change in location or orientation of the sampling probe or site, or changing of flow rate monitor polynomial coefficients.

(3) *Certification approval process for initial certifications and recertification—* (i) *Notification of certification.* The NO_X authorized account representative shall submit to the permitting authority, the appropriate EPA Regional Office and the permitting authority a written notice of the dates of certification in accordance with § 96.73.

(ii) *Certification application.* The NO_X authorized account representative shall submit to the permitting authority a certification application for each monitoring system required under subpart H of part 75 of this chapter. A complete certification application shall include the information specified in subpart H of part 75 of this chapter.

(iii) Except for units using the low mass emission excepted methodology under § 75.19 of this chapter, the provisional certification date for a monitor shall be determined using the procedures set forth in § 75.20(a)(3) of this chapter. A provisionally certified monitor may be used under the NO_X Budget Trading Program for a period not to exceed 120 days after receipt by the permitting authority of the complete certification application for the monitoring system or component thereof under paragraph (b)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system or component thereof, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the permitting authority does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of receipt of the complete certification application by the permitting authority.

(iv) *Certification application formal approval process.* The permitting authority will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under paragraph (b)(3)(ii) of this section. In the event the permitting authority does not issue such a notice within such 120-day period, each monitoring system which meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the NO_X Budget Trading Program.

(A) *Approval notice.* If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of part 75 of this chapter, then the permitting authority will issue a written notice of approval of the certification application within 120 days of receipt.

(B) *Incomplete application notice.* A certification application will be considered complete when all of the applicable information required to be submitted under paragraph (b)(3)(ii) of this section has been received by the permitting authority. If the certification application is not complete, then the permitting authority will issue a written notice of incompleteness that sets a reasonable date by which the NO_X authorized account representative must submit the additional information required to complete the certification application. If the NO_X authorized account representative does not comply with the notice of incompleteness by the specified date, then the permitting authority may issue a notice of disapproval under paragraph (b)(3)(iv)(C) of this section.

(C) *Disapproval notice.* If the certification application shows that any monitoring system or component thereof does not meet the performance requirements of this part, or if the certification application is incomplete and the requirement for disapproval under paragraph (b)(3)(iv)(B) of this section has been met, the permitting authority will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the permitting authority and the data measured and recorded by each uncertified monitoring system or component thereof shall not be considered valid quality-assured data beginning with the date and hour of provisional certification. The owner or operator shall follow the procedures for loss of certification in paragraph (b)(3)(v) of this section for each monitoring system or component thereof which is disapproved for initial certification.

(D) *Audit decertification.* The permitting authority may issue a notice of disapproval of the certification status of a monitor in accordance with §96.72(b).

(v) *Procedures for loss of certification.* If the permitting authority issues a notice of disapproval of a certification application under paragraph (b)(3)(iv)(C) of this section or a notice of disapproval of certification status under paragraph (b)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each hour of unit operation during the period of invalid data beginning with the date and hour of provisional certification and continuing until the time, date, and hour specified under §75.20(a)(5)(i) of this chapter:

(*1*) For units using or intending to monitor for NO_X emission rate and heat input or for units using the low mass emission excepted methodology under §75.19 of this chapter, the maximum potential NO_X emission rate and the maximum potential hourly heat input of the unit.

(*2*) For units intending to monitor for NO_X mass emissions using a NO_X pollutant concentration monitor and a flow monitor, the maximum potential concentration of NO_X and the maximum potential flow rate of the unit under section 2.1 of appendix A of part 75 of this chapter;

(B) The NO_X authorized account representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (b)(3)(i) and (ii) of this section; and

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the permitting authority's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(c) *Initial certification and recertification procedures for low mass emission units using the excepted methodologies under § 75.19 of this chapter*. The owner or operator of a gas-fired or oil-fired unit using the low mass emissions excepted methodology under § 75.19 of this chapter shall meet the applicable general operating requirements of § 75.10 of this chapter, the applicable requirements of § 75.19 of this chapter, and the applicable certification requirements of § 96.71 of this chapter, except that the excepted methodology shall be deemed provisionally certified for use under the NO_X Budget Trading Program, as of the following dates:

(1) For units that are reporting on an annual basis under § 96.74(d);

(i) For a unit that has commences operation before its compliance deadline under § 96.71(b), from January 1 of the year following submission of the certification application for approval to use the low mass emissions excepted methodology under § 75.19 of this chapter until the completion of the period for the permitting authority review; or

(ii) For a unit that commences operation after its compliance deadline under § 96.71(b), the date of submission of the certification application for approval to use the low mass emissions excepted methodology under § 75.19 of this chapter until the completion of the period for permitting authority review, or

(2) For units that are reporting on a control period basis under § 96.74(b)(3)(ii) of this part:

(i) For a unit that commenced operation before its compliance deadline under § 96.71(b), where the certification application is submitted before May 1, from May 1 of the year of the submission of the certification application for approval to use the low mass emissions excepted methodology under § 75.19 of this chapter until the completion of the period for the permitting authority review; or

(ii) For a unit that commenced operation before its compliance deadline under § 96.71(b), where the certification application is submitted after May 1, from May 1 of the year following submission of the certification application for approval to use the low mass emissions excepted methodology under § 75.19 of this chapter until the completion of the period for the permitting authority review; or

(iii) For a unit that commences operation after its compliance deadline under § 96.71(b), where the unit commences operation before May 1, from May 1 of the year that the unit commenced operation, until the completion of the period for the permitting authority's review.

(iv) For a unit that has not operated after its compliance deadline under § 96.71(b), where the certification application is submitted after May 1, but before October 1st, from the date of submission of a certification application for approval to use the low mass emissions excepted methodology under § 75.19 of this chapter until the completion of the period for the permitting authority's review.

(d) *Certification/recertification procedures for alternative monitoring systems.* The NO_X authorized account representative representing the owner or operator of each unit applying to monitor using an alternative monitoring system approved by the Administrator and, if applicable, the permitting authority under subpart E of part 75 of this chapter shall apply for certification to the permitting authority prior to use of the system under the NO_X Trading Program. The NO_X authorized account representative shall apply for recertification following a replacement, modification or change according to the procedures in paragraph (b) of this section. The owner or operator of an alternative monitoring system shall comply with the notification and application requirements for certification according to the procedures specified in paragraph (b)(3) of this section and § 75.20(f) of this chapter .

§ 96.72 Out of control periods.

(a) Whenever any monitoring system fails to meet the quality assurance requirements of appendix B of part 75 of

this chapter, data shall be substituted using the applicable procedures in subpart D, appendix D, or appendix E of part 75 of this chapter.

(b) *Audit decertification.* Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any system or component should not have been certified or recertified because it did not meet a particular performance specification or other requirement under §96.71 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the permitting authority will issue a notice of disapproval of the certification status of such system or component. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the permitting authority or the Administrator. By issuing the notice of disapproval, the permitting authority revokes prospectively the certification status of the system or component. The data measured and recorded by the system or component shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests. The owner or operator shall follow the initial certification or recertification procedures in §96.71 for each disapproved system.

§96.73 Notifications.

The NO_X authorized account representative for a NO_X Budget unit shall submit written notice to the permitting authority and the Administrator in accordance with §75.61 of this chapter, except that if the unit is not subject to an Acid Rain emissions limitation, the notification is only required to be sent to the permitting authority.

§96.74 Recordkeeping and reporting.

(a) *General provisions.* (1) The NO_X authorized account representative shall comply with all recordkeeping and reporting requirements in this section and with the requirements of §96.10(e).

(2) If the NO_X authorized account representative for a NO_X Budget unit subject to an Acid Rain Emission limitation who signed and certified any submission that is made under subpart F or G of part 75 of this chapter and which includes data and information required under this subpart or subpart H of part 75 of this chapter is not the same person as the designated representative or the alternative designated representative for the unit under part 72 of this chapter, the submission must also be signed by the designated representative or the alternative designated representative.

(b) *Monitoring plans.* (1) The owner or operator of a unit subject to an Acid Rain emissions limitation shall comply with requirements of §75.62 of this chapter, except that the monitoring plan shall also include all of the information required by subpart H of part 75 of this chapter.

(2) The owner or operator of a unit that is not subject to an Acid Rain emissions limitation shall comply with requirements of §75.62 of this chapter, except that the monitoring plan is only required to include the information required by subpart H of part 75 of this chapter.

(c) *Certification applications.* The NO_X authorized account representative shall submit an application to the permitting authority within 45 days after completing all initial certification or recertification tests required under §96.71 including the information required under subpart H of part 75 of this chapter.

(d) *Quarterly reports.* The NO_X authorized account representative shall submit quarterly reports, as follows:

(1) If a unit is subject to an Acid Rain emission limitation or if the owner or operator of the NO_X budget unit chooses to meet the annual reporting requirements of this subpart H, the NO_X authorized account representative shall submit a quarterly report for each calendar quarter beginning with:

(i) For units that elect to comply with the early reduction credit provisions under §96.55 of this part, the CALENDER quarter that includes the date of initial provisional certification

under § 96.71(b)(3)(iii). Data shall be reported from the date and hour corresponding to the date and hour of provisional certification; or

(ii) For units commencing operation prior to May 1, 2002 that are not required to certify monitors by May 1, 2000 under § 96.70(b)(1), the earlier of the CALENDER quarter that includes the date of initial provisional certification under § 96.71(b)(3)(iii) or, if the certification tests are not completed by May 1, 2002, the partial CALENDER quarter from May 1, 2002 through June 30, 2002. Data shall be recorded and reported from the earlier of the date and hour corresponding to the date and hour of provisional certification or the first hour on May 1, 2002; or

(iii) For a unit that commences operation after May 1, 2002, the calendar quarter in which the unit commences operation, Data shall be reported from the date and hour corresponding to when the unit commenced operation.

(2) If a NO_X budget unit is not subject to an Acid Rain emission limitation, then the NO_X authorized account representative shall either:

(i) Meet all of the requirements of part 75 related to monitoring and reporting NO_X mass emissions during the entire year and meet the reporting deadlines specified in paragraph (d)(1) of this section; or

(ii) Submit quarterly reports only for the periods from the earlier of May 1 or the date and hour that the owner or operator successfully completes all of the recertification tests required under § 75.74(d)(3) through September 30 of each year in accordance with the provisions of § 75.74(b) of this chapter. The NO_X authorized account representative shall submit a quarterly report for each calendar quarter, beginning with:

(*A*) For units that elect to comply with the early reduction credit provisions under § 96.55, the CALENDER quarter that includes the date of initial provisional certification under § 96.71(b)(3)(iii). Data shall be reported from the date and hour corresponding to the date and hour of provisional certification; or

(*B*) For units commencing operation prior to May 1, 2002 that are not required to certify monitors by May 1, 2000 under § 96.70(b)(1), the earlier of the CALENDER quarter that includes the date of initial provisional certification under § 96.71(b)(3)(iii), or if the certification tests are not completed by May 1, 2002, the partial CALENDER quarter from May 1, 2002 through June 30, 2002. Data shall be reported from the earlier of the date and hour corresponding to the date and hour of provisional certification or the first hour of May 1, 2002; or

(*C*) For units that commence operation after May 1, 2002 during the control period, the CALENDER quarter in which the unit commences operation. Data shall be reported from the date and hour corresponding to when the unit commenced operation; or

(*D*) For units that commence operation after May 1, 2002 and before May 1 of the year in which the unit commences operation, the earlier of the CALENDER quarter that includes the date of initial provisional certification under § 96.71(b)(3)(iii) or, if the certification tests are not completed by May 1 of the year in which the unit commences operation, May 1 of the year in which the unit commences operation. Data shall be reported from the earlier of the date and hour corresponding to the date and hour of provisional certification or the first hour of May 1 of the year after the unit commences operation.

(*E*) For units that commence operation after May 1, 2002 and after September 30 of the year in which the unit commences operation, the earlier of the CALENDER quarter that includes the date of initial provisional certification under § 96.71(b)(3)(iii) or, if the certification tests are not completed by May 1 of the year after the unit commences operation, May 1 of the year after the unit commences operation. Data shall be reported from the earlier of the date and hour corresponding to the date and hour of provisional certification or the first hour of May 1 of the year after the unit commences operation.

(3) The NO_X authorized account representative shall submit each quarterly report to the Administrator within 30 days following the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in subpart H of part

75 of this chapter and §75.64 of this chapter.

(i) For units subject to an Acid Rain Emissions limitation, quarterly reports shall include all of the data and information required in subpart H of part 75 of this chapter for each NO_X Budget unit (or group of units using a common stack) as well as information required in subpart G of part 75 of this chapter.

(ii) For units not subject to an Acid Rain Emissions limitation, quarterly reports are only required to include all of the data and information required in subpart H of part 75 of this chapter for each NO_X Budget unit (or group of units using a common stack).

(4) *Compliance certification*. The NO_X authorized account representative shall submit to the Administrator a compliance certification in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(i) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications; and

(ii) For a unit with add-on NO_X emission controls and for all hours where data are substituted in accordance with §75.34(a)(1) of this chapter, the add-on emission controls were operating within the range of parameters listed in the monitoring plan and the substitute values do not systematically underestimate NO_X emissions; and

(iii) For a unit that is reporting on a control period basis under §96.74(d) the NO_X emission rate and NO_X concentration values substituted for missing data under subpart D of part 75 of this chapter are calculated using only values from a control period and do not systematically underestimate NO_X emissions.

§96.75 Petitions.

(a) The NO_X authorized account representative of a NO_X Budget unit that is subject to an Acid Rain emissions limitation may submit a petition under §75.66 of this chapter to the Administrator requesting approval to apply an alternative to any requirement of this subpart.

(1) Application of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that the petition is approved by the Administrator, in consultation with the permitting authority.

(2) Notwithstanding paragraph (a)(1) of this section, if the petition requests approval to apply an alternative to a requirement concerning any additional CEMS required under the common stack provisions of §75.72 of this chapter, the petition is governed by paragraph (b) of this section.

(b) The NO_X authorized account representative of a NO_X Budget unit that is not subject to an Acid Rain emissions limitation may submit a petition under §75.66 of this chapter to the permitting authority and the Administrator requesting approval to apply an alternative to any requirement of this subpart.

(1) The NO_X authorized account representative of a NO_X Budget unit that is subject to an Acid Rain emissions limitation may submit a petition under §75.66 of this chapter to the permitting authority and the Administrator requesting approval to apply an alternative to a requirement concerning any additional CEMS required under the common stack provisions of §75.72 of this chapter or a NO_X concentration CEMS used under 75.71(a)(2) of this chapter.

(2) Application of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent the petition under paragraph (b) of this section is approved by both the permitting authority and the Administrator.

§96.76 Additional requirements to provide heat input data for allocations purposes.

(a) The owner or operator of a unit that elects to monitor and report NO_X Mass emissions using a NO_X concentration system and a flow system shall also monitor and report heat input at the unit level using the procedures set forth in part 75 of this chapter for any source located in a state developing

source allocations based upon heat input.

(b) The owner or operator of a unit that monitor and report NO_X Mass emissions using a NO_X concentration system and a flow system shall also monitor and report heat input at the unit level using the procedures set forth in part 75 of this chapter for any source that is applying for early reduction credits under § 96.55.

Subpart I—Individual Unit Opt-ins

§ 96.80 Applicability.

A unit that is in the State, is not a NO_X Budget unit under § 96.4, vents all of its emissions to a stack, and is operating, may qualify, under this subpart, to become a NO_X Budget opt-in source. A unit that is a NO_X Budget unit, is covered by a retired unit exemption under § 96.5 that is in effect, or is not operating is not eligible to become a NO_X Budget opt-in source.

§ 96.81 General.

Except otherwise as provided in this part, a NO_X Budget opt-in source shall be treated as a NO_X Budget unit for purposes of applying subparts A through H of this part.

§ 96.82 NO_X authorized account representative.

A unit for which an application for a NO_X Budget opt-in permit is submitted and not denied or withdrawn, or a NO_X Budget opt-in source, located at the same source as one or more NO_X Budget units, shall have the same NO_X authorized account representative as such NO_X Budget units.

§ 96.83 Applying for NO_X Budget opt-in permit.

(a) *Applying for initial NO_X* Budget opt-in permit. In order to apply for an initial NO_X Budget opt-in permit, the NO_X authorized account representative of a unit qualified under § 96.80 may submit to the permitting authority at any time, except as provided under § 96.86(g):

(1) A complete NO_X Budget permit application under § 96.22;

(2) A monitoring plan submitted in accordance with subpart H of this part; and

(3) A complete account certificate of representation under § 96.13, if no NO_X authorized account representative has been previously designated for the unit.

(b) *Duty to reapply*. The NO_X authorized account representative of a NO_X Budget opt-in source shall submit a complete NO_X Budget permit application under § 96.22 to renew the NO_X Budget opt-in permit in accordance with § 96.21(c) and, if applicable, an updated monitoring plan in accordance with subpart H of this part.

§ 96.84 Opt-in process.

The permitting authority will issue or deny a NO_X Budget opt-in permit for a unit for which an initial application for a NO_X Budget opt-in permit under § 96.83 is submitted, in accordance with § 96.20 and the following:

(a) *Interim review of monitoring plan*. The permitting authority will determine, on an interim basis, the sufficiency of the monitoring plan accompanying the initial application for a NO_X Budget opt-in permit under § 96.83. A monitoring plan is sufficient, for purposes of interim review, if the plan appears to contain information demonstrating that the NO_X emissions rate and heat input of the unit are monitored and reported in accordance with subpart H of this part. A determination of sufficiency shall not be construed as acceptance or approval of the unit's monitoring plan.

(b) If the permitting authority determines that the unit's monitoring plan is sufficient under paragraph (a) of this section and after completion of monitoring system certification under subpart H of this part, the NO_X emissions rate and the heat input of the unit shall be monitored and reported in accordance with subpart H of this part for one full control period during which monitoring system availability is not less than 90 percent and during which the unit is in full compliance with any applicable State or Federal emissions or emissions-related requirements. Solely for purposes of applying the requirements in the prior sentence, the unit shall be treated as a ''NO_X Budget unit'' prior to issuance of a NO_X Budget opt-in permit covering the unit.

(c) Based on the information monitored and reported under paragraph (b) of this section, the unit's baseline heat rate shall be calculated as the unit's total heat input (in mmBtu) for the control period and the unit's baseline NO_X emissions rate shall be calculated as the unit's total NO_X emissions (in lb) for the control period divided by the unit's baseline heat rate.

(d) After calculating the baseline heat input and the baseline NO_X emissions rate for the unit under paragraph (c) of this section, the permitting authority will serve a draft NO_X Budget opt-in permit on the NO_X authorized account representative of the unit.

(e) *Confirmation of intention to opt-in.* Within 20 days after the issuance of the draft NO_X Budget opt-in permit, the NO_X authorized account representative of the unit must submit to the permitting authority a confirmation of the intention to opt in the unit or a withdrawal of the application for a NO_X Budget opt-in permit under §96.83. The permitting authority will treat the failure to make a timely submission as a withdrawal of the NO_X Budget opt-in permit application.

(f) *Issuance of draft NO_X Budget opt-in permit.* If the NO_X authorized account representative confirms the intention to opt-in the unit under paragraph (e) of this section, the permitting authority will issue the draft NO_X Budget opt-in permit in accordance with §96.20.

(g) Notwithstanding paragraphs (a) through (f) of this section, if at any time before issuance of a draft NO_X Budget opt-in permit for the unit, the permitting authority determines that the unit does not qualify as a NO_X Budget opt-in source under §96.80, the permitting authority will issue a draft denial of a NO_X Budget opt-in permit for the unit in accordance with §96.20.

(h) *Withdrawal of application for NO_X Budget opt-in permit.* A NO_X authorized account representative of a unit may withdraw its application for a NO_X Budget opt-in permit under §96.83 at any time prior to the issuance of the final NO_X Budget opt-in permit. Once the application for a NO_X Budget opt-in permit is withdrawn, a NO_X authorized account representative wanting to reapply must submit a new application for a NO_X Budget permit under §96.83.

(i) *Effective date.* The effective date of the initial NO_X Budget opt-in permit shall be May 1 of the first control period starting after the issuance of the initial NO_X Budget opt-in permit by the permitting authority. The unit shall be a NO_X Budget opt-in source and a NO_X Budget unit as of the effective date of the initial NO_X Budget opt-in permit.

§96.85 NO_X Budget opt-in permit contents.

(a) Each NO_X Budget opt-in permit (including any draft or proposed NO_X Budget opt-in permit, if applicable) will contain all elements required for a complete NO_X Budget opt-in permit application under §96.22 as approved or adjusted by the permitting authority.

(b) Each NO_X Budget opt-in permit is deemed to incorporate automatically the definitions of terms under §96.2 and, upon recordation by the Administrator under subpart F, G, or I of this part, every allocation, transfer, or deduction of NO_X allowances to or from the compliance accounts of each NO_X Budget opt-in source covered by the NO_X Budget opt-in permit or the overdraft account of the NO_X Budget source where the NO_X Budget opt-in source is located.

§96.86 Withdrawal from NO_X Budget Trading Program.

(a) *Requesting withdrawal.* To withdraw from the NO_X Budget Trading Program, the NO_X authorized account representative of a NO_X Budget opt-in source shall submit to the permitting authority a request to withdraw effective as of a specified date prior to May 1 or after September 30. The submission shall be made no later than 90 days prior to the requested effective date of withdrawal.

(b) *Conditions for withdrawal.* Before a NO_X Budget opt-in source covered by a request under paragraph (a) of this section may withdraw from the NO_X Budget Trading Program and the NO_X Budget opt-in permit may be terminated under paragraph (e) of this section, the following conditions must be met:

(1) For the control period immediately before the withdrawal is to be effective, the NO_X authorized account representative must submit or must

have submitted to the permitting authority an annual compliance certification report in accordance with § 96.30.

(2) If the NO_X Budget opt-in source has excess emissions for the control period immediately before the withdrawal is to be effective, the Administrator will deduct or has deducted from the NO_X Budget opt-in source's compliance account, or the overdraft account of the NO_X Budget source where the NO_X Budget opt-in source is located, the full amount required under § 96.54(d) for the control period.

(3) After the requirements for withdrawal under paragraphs (b)(1) and (2) of this section are met, the Administrator will deduct from the NO_X Budget opt-in source's compliance account, or the overdraft account of the NO_X Budget source where the NO_X Budget opt-in source is located, NO_X allowances equal in number to and allocated for the same or a prior control period as any NO_X allowances allocated to that source under § 96.88 for any control period for which the withdrawal is to be effective. The Administrator will close the NO_X Budget opt-in source's compliance account and will establish, and transfer any remaining allowances to, a new general account for the owners and operators of the NO_X Budget opt-in source. The NO_X authorized account representative for the NO_X Budget opt-in source shall become the NO_X authorized account representative for the general account.

(c) A NO_X Budget opt-in source that withdraws from the NO_X Budget Trading Program shall comply with all requirements under the NO_X Budget Trading Program concerning all years for which such NO_X Budget opt-in source was a NO_X Budget opt-in source, even if such requirements arise or must be complied with after the withdrawal takes effect.

(d) *Notification.* (1) After the requirements for withdrawal under paragraphs (a) and (b) of this section are met (including deduction of the full amount of NO_X allowances required), the permitting authority will issue a notification to the NO_X authorized account representative of the NO_X Budget opt-in source of the acceptance of the withdrawal of the NO_X Budget opt-in source as of a specified effective date that is after such requirements have been met and that is prior to May 1 or after September 30.

(2) If the requirements for withdrawal under paragraphs (a) and (b) of this section are not met, the permitting authority will issue a notification to the NO_X authorized account representative of the NO_X Budget opt-in source that the NO_X Budget opt-in source's request to withdraw is denied. If the NO_X Budget opt-in source's request to withdraw is denied, the NO_X Budget opt-in source shall remain subject to the requirements for a NO_X Budget opt-in source.

(e) *Permit amendment.* After the permitting authority issues a notification under paragraph (d)(1) of this section that the requirements for withdrawal have been met, the permitting authority will revise the NO_X Budget permit covering the NO_X Budget opt-in source to terminate the NO_X Budget opt-in permit as of the effective date specified under paragraph (d)(1) of this section. A NO_X Budget opt-in source shall continue to be a NO_X Budget opt-in source until the effective date of the termination.

(f) *Reapplication upon failure to meet conditions of withdrawal.* If the permitting authority denies the NO_X Budget opt-in source's request to withdraw, the NO_X authorized account representative may submit another request to withdraw in accordance with paragraphs (a) and (b) of this section.

(g) *Ability to return to the NO_X* Budget Trading Program. Once a NO_X Budget opt-in source withdraws from the NO_X Budget Trading Program and its NO_X Budget opt-in permit is terminated under this section, the NO_X authority account representative may not submit another application for a NO_X Budget opt-in permit under § 96.83 for the unit prior to the date that is 4 years after the date on which the terminated NO_X Budget opt-in permit became effective.

§ 96.87 Change in regulatory status.

(a) *Notification.* When a NO_X Budget opt-in source becomes a NO_X Budget unit under § 96.4, the NO_X authorized account representative shall notify in writing the permitting authority and the Administrator of such change in

the NO_X Budget opt-in source's regulatory status, within 30 days of such change.

(b) *Permitting authority's and Administrator's action.* (1)(i) When the NO_X Budget opt-in source becomes a NO_X Budget unit under §96.4, the permitting authority will revise the NO_X Budget opt-in source's NO_X Budget opt-in permit to meet the requirements of a NO_X Budget permit under §96.23 as of an effective date that is the date on which such NO_X Budget opt-in source becomes a NO_X Budget unit under §96.4.

(ii)(A) The Administrator will deduct from the compliance account for the NO_X Budget unit under paragraph (b)(1)(i) of this section, or the overdraft account of the NO_X Budget source where the unit is located, NO_X allowances equal in number to and allocated for the same or a prior control period as:

(*1*) Any NO_X allowances allocated to the NO_X Budget unit (as a NO_X Budget opt-in source) under §96.88 for any control period after the last control period during which the unit's NO_X Budget opt-in permit was effective; and

(*2*) If the effective date of the NO_X Budget permit revision under paragraph (b)(1)(i) of this section is during a control period, the NO_X allowances allocated to the NO_X Budget unit (as a NO_X Budget opt-in source) under §96.88 for the control period multiplied by the ratio of the number of days, in the control period, starting with the effective date of the permit revision under paragraph (b)(1)(i) of this section, divided by the total number of days in the control period.

(B) The NO_X authorized account representative shall ensure that the compliance account of the NO_X Budget unit under paragraph (b)(1)(i) of this section, or the overdraft account of the NO_X Budget source where the unit is located, includes the NO_X allowances necessary for completion of the deduction under paragraph (b)(1)(ii)(A) of this section. If the compliance account or overdraft account does not contain sufficient NO_X allowances, the Administrator will deduct the required number of NO_X allowances, regardless of the control period for which they were allocated, whenever NO_X allowances are recorded in either account.

(iii)(A) For every control period during which the NO_X Budget permit revised under paragraph (b)(1)(i) of this section is effective, the NO_X Budget unit under paragraph (b)(1)(i) of this section will be treated, solely for purposes of NO_X allowance allocations under §96.42, as a unit that commenced operation on the effective date of the NO_X Budget permit revision under paragraph (b)(1)(i) of this section and will be allocated NO_X allowances under §96.42.

(B) Notwithstanding paragraph (b)(1)(iii)(A) of this section, if the effective date of the NO_X Budget permit revision under paragraph (b)(1)(i) of this section is during a control period, the following number of NO_X allowances will be allocated to the NO_X Budget unit under paragraph (b)(1)(i) of this section under §96.42 for the control period: the number of NO_X allowances otherwise allocated to the NO_X Budget unit under §96.42 for the control period multiplied by the ratio of the number of days, in the control period, starting with the effective date of the permit revision under paragraph (b)(1)(i) of this section, divided by the total number of days in the control period.

(2)(i) When the NO_X authorized account representative of a NO_X Budget opt-in source does not renew its NO_X Budget opt-in permit under §96.83(b), the Administrator will deduct from the NO_X Budget opt-in unit's compliance account, or the overdraft account of the NO_X Budget source where the NO_X Budget opt-in source is located, NO_X allowances equal in number to and allocated for the same or a prior control period as any NO_X allowances allocated to the NO_X Budget opt-in source under §96.88 for any control period after the last control period for which the NO_X Budget opt-in permit is effective. The NO_X authorized account representative shall ensure that the NO_X Budget opt-in source's compliance account or the overdraft account of the NO_X Budget source where the NO_X Budget opt-in source is located includes the NO_X allowances necessary for completion of such deduction. If the compliance account or overdraft account does not contain sufficient NO_X allowances, the Administrator will deduct the required number of NO_X allowances, regardless

of the control period for which they were allocated, whenever NO_X allowances are recorded in either account.

(ii) After the deduction under paragraph (b)(2)(i) of this section is completed, the Administrator will close the NO_X Budget opt-in source's compliance account. If any NO_X allowances remain in the compliance account after completion of such deduction and any deduction under § 96.54, the Administrator will close the NO_X Budget opt-in source's compliance account and will establish, and transfer any remaining allowances to, a new general account for the owners and operators of the NO_X Budget opt-in source. The NO_X authorized account representative for the NO_X Budget opt-in source shall become the NO_X authorized account representative for the general account.

§ 96.88 NO_X allowance allocations to opt-in units.

(a) *NO_X allowance allocation.* (1) By December 31 immediately before the first control period for which the NO_X Budget opt-in permit is effective, the permitting authority will allocate NO_X allowances to the NO_X Budget opt-in source and submit to the Administrator the allocation for the control period in accordance with paragraph (b) of this section.

(2) By no later than December 31, after the first control period for which the NO_X Budget opt-in permit is in effect, and December 31 of each year thereafter, the permitting authority will allocate NO_X allowances to the NO_X Budget opt-in source, and submit to the Administrator allocations for the next control period, in accordance with paragraph (b) of this section.

(b) For each control period for which the NO_X Budget opt-in source has an approved NO_X Budget opt-in permit, the NO_X Budget opt-in source will be allocated NO_X allowances in accordance with the following procedures:

(1) The heat input (in mmBtu) used for calculating NO_X allowance allocations will be the lesser of:

(i) The NO_X Budget opt-in source's baseline heat input determined pursuant to § 96.84(c); or

(ii) The NO_X Budget opt-in source's heat input, as determined in accordance with subpart H of this part, for the control period in the year prior to the year of the control period for which the NO_X allocations are being calculated.

(2) The permitting authority will allocate NO_X allowances to the NO_X Budget opt-in source in an amount equaling the heat input (in mmBtu) determined under paragraph (b)(1) of this section multiplied by the lesser of:

(i) The NO_X Budget opt-in source's baseline NO_X emissions rate (in lb/mmBtu) determined pursuant to § 96.84(c); or

(ii) The most stringent State or Federal NO_X emissions limitation applicable to the NO_X Budget opt-in source during the control period.

Subpart J—Mobile and Area Sources [Reserved]

Subparts K–Z [Reserved]

Subpart AA—CAIR NO_X Annual Trading Program General Provisions

SOURCE: 70 FR 25339, May 12, 2005, unless otherwise noted.

§ 96.101 Purpose.

This subpart and subparts BB through II establish the model rule comprising general provisions and the designated representative, permitting, allowance, monitoring, and opt-in provisions for the State Clean Air Interstate Rule (CAIR) NO_X Annual Trading Program, under section 110 of the Clean Air Act and § 51.123 of this chapter, as a means of mitigating interstate transport of fine particulates and nitrogen oxides. The owner or operator of a unit or a source shall comply with the requirements of this subpart and subparts BB through II as a matter of federal law only if the State with jurisdiction over the unit and the source incorporates by reference such subparts or otherwise adopts the requirements of such subparts in accordance with § 51.123(o)(1) or (2) of this chapter, the State submits to the Administrator one or more revisions of the State implementation plan that include such adoption, and the Administrator approves such revisions. If the State

adopts the requirements of such subparts in accordance with § 51.123(o)(1) or (2) of this chapter, then the State authorizes the Administrator to assist the State in implementing the CAIR NO_X Annual Trading Program by carrying out the functions set forth for the Administrator in such subparts.

§ 96.102 Definitions.

The terms used in this subpart and subparts BB through II shall have the meanings set forth in this section as follows:

Account number means the identification number given by the Administrator to each CAIR NO_X Allowance Tracking System account.

Acid Rain emissions limitation means a limitation on emissions of sulfur dioxide or nitrogen oxides under the Acid Rain Program.

Acid Rain Program means a multistate sulfur dioxide and nitrogen oxides air pollution control and emission reduction program established by the Administrator under title IV of the CAA and parts 72 through 78 of this chapter.

Administrator means the Administrator of the United States Environmental Protection Agency or the Administrator's duly authorized representative.

Allocate or *allocation* means, with regard to CAIR NO_X allowances, the determination by a permitting authority or the Administrator of the amount of such CAIR NO_X allowances to be initially credited to a CAIR NO_X unit, a new unit set-aside, or other entity.

Allowance transfer deadline means, for a control period, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately following the control period and is the deadline by which a CAIR NO_X allowance transfer must be submitted for recordation in a CAIR NO_X source's compliance account in order to be used to meet the source's CAIR NO_X emissions limitation for such control period in accordance with § 96.154.

Alternate CAIR designated representative means, for a CAIR NO_X source and each CAIR NO_X unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with subparts BB and II of this part, to act on behalf of the CAIR designated representative in matters pertaining to the CAIR NO_X Annual Trading Program. If the CAIR NO_X source is also a CAIR SO_2 source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR SO_2 Trading Program. If the CAIR NO_X source is also a CAIR NO_X Ozone Season source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR NO_X Ozone Season Trading Program. If the CAIR NO_X source is also subject to the Acid Rain Program, then this natural person shall be the same person as the alternate designated representative under the Acid Rain Program. If the CAIR NO_X source is also subject to the Hg Budget Trading Program, then this natural person shall be the same person as the alternate Hg designated representative under the Hg Budget Trading Program.

Automated data acquisition and handling system or *DAHS* means that component of the continuous emission monitoring system, or other emissions monitoring system approved for use under subpart HH of this part, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by subpart HH of this part.

Biomass means—

(1) Any organic material grown for the purpose of being converted to energy;

(2) Any organic byproduct of agriculture that can be converted into energy; or

(3) Any material that can be converted into energy and is nonmerchantable for other purposes, that is segregated from other nonmerchantable material, and that is;

(i) A forest-related organic resource, including mill residues, precommercial thinnings, slash, brush, or byproduct from conversion of trees to merchantable material; or

(ii) A wood material, including pallets, crates, dunnage, manufacturing and construction materials (other than pressure-treated, chemically-treated, or painted wood products), and landscape or right-of-way tree trimmings.

Boiler means an enclosed fossil- or other-fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

Bottoming-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful thermal energy and at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

CAIR authorized account representative means, with regard to a general account, a responsible natural person who is authorized, in accordance with subparts BB, FF, and II of this part, to transfer and otherwise dispose of CAIR NO_X allowances held in the general account and, with regard to a compliance account, the CAIR designated representative of the source.

CAIR designated representative means, for a CAIR NO_X source and each CAIR NO_X unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with subparts BB and II of this part, to represent and legally bind each owner and operator in matters pertaining to the CAIR NO_X Annual Trading Program. If the CAIR NO_X source is also a CAIR SO_2 source, then this natural person shall be the same person as the CAIR designated representative under the CAIR SO_2 Trading Program. If the CAIR NO_X source is also a CAIR NO_X Ozone Season source, then this natural person shall be the same person as the CAIR designated representative under the CAIR NO_X Ozone Season Trading Program. If the CAIR NO_X source is also subject to the Acid Rain Program, then this natural person shall be the same person as the designated representative under the Acid Rain Program. If the CAIR NO_X source is also subject to the Hg Budget Trading Program, then this natural person shall be the same person as the Hg designated representative under the Hg Budget Trading Program.

CAIR NO_X allowance means a limited authorization issued by a permitting authority or the Administrator under provisions of a State implementation plan that are approved under § 51.123(o)(1) or (2) or (p) of this chapter, or under subpart EE of part 97 or § 97.188 of this chapter, to emit one ton of nitrogen oxides during a control period of the specified calendar year for which the authorization is allocated or of any calendar year thereafter under the CAIR NO_X Program. An authorization to emit nitrogen oxides that is not issued under provisions of a State implementation plan that are approved under § 51.123(o)(1) or (2) or (p) of this chapter or subpart EE of part 97 or § 97.188 of this chapter shall not be a CAIR NO_X allowance.

CAIR NO_X allowance deduction or *deduct CAIR NO_X allowances* means the permanent withdrawal of CAIR NO_X allowances by the Administrator from a compliance account, *e.g.*, in order to account for a specified number of tons of total nitrogen oxides emissions from all CAIR NO_X units at a CAIR NO_X source for a control period, determined in accordance with subpart HH of this part, or to account for excess emissions.

CAIR NO_X Allowance Tracking System means the system by which the Administrator records allocations, deductions, and transfers of CAIR NO_X allowances under the CAIR NO_X Annual Trading Program. Such allowances will be allocated, held, deducted, or transferred only as whole allowances.

CAIR NO_X Allowance Tracking System account means an account in the CAIR NO_X Allowance Tracking System established by the Administrator for purposes of recording the allocation, holding, transferring, or deducting of CAIR NO_X allowances.

CAIR NO_X allowances held or *hold CAIR NO_X allowances* means the CAIR NO_X allowances recorded by the Administrator, or submitted to the Administrator for recordation, in accordance with subparts FF, GG, and II of this part, in a CAIR NO_X Allowance Tracking System account.

CAIR NO_X Annual Trading Program means a multi-state nitrogen oxides air

pollution control and emission reduction program approved and administered by the Administrator in accordance with subparts AA through II of this part and § 51.123(o)(1) or (2) of this chapter or established by the Administrator in accordance with subparts AA through II of part 97 of this chapter and §§ 51.123(p) and 52.35 of this chapter, as a means of mitigating interstate transport of fine particulates and nitrogen oxides.

CAIR NO_X emissions limitation means, for a CAIR NO_X source, the tonnage equivalent, in NO_X emissions in a control period, of the CAIR NO_X allowances available for deduction for the source under § 96.154(a) and (b) for the control period.

CAIR NO_X Ozone Season source means a source that is subject to the CAIR NO_X Ozone Season Trading Program.

CAIR NO_X Ozone Season Trading Program means a multi-state nitrogen oxides air pollution control and emission reduction program approved and administered by the Administrator in accordance with subparts AAAA through IIII of this part and § 51.123(aa)(1) or (2) (and (bb)(1)), (bb)(2), or (dd) of this chapter or established by the Administrator in accordance with subparts AAAA through IIII of part 97 of this chapter and §§ 51.123(ee) and 52.35 of this chapter, as a means of mitigating interstate transport of ozone and nitrogen oxides.

CAIR NO_X source means a source that includes one or more CAIR NO_X units.

CAIR NO_X unit means a unit that is subject to the CAIR NO_X Annual Trading Program under § 96.104 and, except for purposes of § 96.105 and subpart EE of this part, a CAIR NO_X opt-in unit under subpart II of this part.

CAIR permit means the legally binding and federally enforceable written document, or portion of such document, issued by the permitting authority under subpart CC of this part, including any permit revisions, specifying the CAIR NO_X Annual Trading Program requirements applicable to a CAIR NO_X source, to each CAIR NO_X unit at the source, and to the owners and operators and the CAIR designated representative of the source and each such unit.

CAIR SO_2 source means a source that is subject to the CAIR SO_2 Trading Program.

CAIR SO_2 Trading Program means a multi-state sulfur dioxide air pollution control and emission reduction program approved and administered by the Administrator in accordance with subparts AAA through III of this part and § 51.124(o)(1) or (2) of this chapter or established by the Administrator in accordance with subparts AAA through III of part 97 of this chapter and §§ 51.124(r) and 52.36 of this chapter, as a means of mitigating interstate transport of fine particulates and sulfur dioxide.

Clean Air Act or *CAA* means the Clean Air Act, 42 U.S.C. 7401, *et seq*.

Coal means any solid fuel classified as anthracite, bituminous, subbituminous, or lignite.

Coal-derived fuel means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal, or chemical processing of coal.

Coal-fired means:

(1) Except for purposes of subpart EE of this part, combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year; or

(2) For purposes of subpart EE of this part, combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during a specified year.

Cogeneration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine:

(1) Having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and

(2) Producing during the 12-month period starting on the date the unit first produces electricity and during any calendar year after the calendar year in which the unit first produces electricity—

(i) For a topping-cycle cogeneration unit,

(A) Useful thermal energy not less than 5 percent of total energy output; and

(B) Useful power that, when added to one-half of useful thermal energy produced, is not less then 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output.

(ii) For a bottoming-cycle cogeneration unit, useful power not less than 45 percent of total energy input;

(3) Provided that the total energy input under paragraphs (2)(i)(B) and (2)(ii) of this definition shall equal the unit's total energy input from all fuel except biomass if the unit is a boiler.

Combustion turbine means:

(1) An enclosed device comprising a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and

(2) If the enclosed device under paragraph (1) of this definition is combined cycle, any associated duct burner, heat recovery steam generator, and steam turbine.

Commence commercial operation means, with regard to a unit:

(1) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in § 96.105 and § 96.184(h).

(i) For a unit that is a CAIR NO_X unit under § 96.104 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a CAIR NO_X unit under § 96.104 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

(2) Notwithstanding paragraph (1) of this definition and except as provided in § 96.105, for a unit that is not a CAIR NO_X unit under § 96.104 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a CAIR NO_X unit under § 96.104.

(i) For a unit with a date for commencement of commercial operation as defined in paragraph (2) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in paragraph (2) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

Commence operation means:

(1) To have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber, except as provided in § 96.184(h).

(2) For a unit that undergoes a physical change (other than replacement of the unit by a unit at the same source) after the date the unit commences operation as defined in paragraph (1) of this definition, such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit.

(3) For a unit that is replaced by a unit at the same source (*e.g.*, repowered) after the date the unit commences operation as defined in paragraph (1) of this definition, such date shall remain the replaced unit's date of

commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in paragraph (1), (2), or (3) of this definition as appropriate, except as provided in § 96.184(h).

Compliance account means a CAIR NO_X Allowance Tracking System account, established by the Administrator for a CAIR NO_X source under subpart FF or II of this part, in which any CAIR NO_X allowance allocations for the CAIR NO_X units at the source are initially recorded and in which are held any CAIR NO_X allowances available for use for a control period in order to meet the source's CAIR NO_X emissions limitation in accordance with § 96.154.

Continuous emission monitoring system or *CEMS* means the equipment required under subpart HH of this part to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes (using an automated data acquisition and handling system (DAHS)), a permanent record of nitrogen oxides emissions, stack gas volumetric flow rate, stack gas moisture content, and oxygen or carbon dioxide concentration (as applicable), in a manner consistent with part 75 of this chapter. The following systems are the principal types of continuous emission monitoring systems required under subpart HH of this part:

(1) A flow monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);

(2) A nitrogen oxides concentration monitoring system, consisting of a NO_X pollutant concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X emissions, in parts per million (ppm);

(3) A nitrogen oxides emission rate (or NO_X-diluent) monitoring system, consisting of a NO_X pollutant concentration monitor, a diluent gas (CO_2 or O_2) monitor, and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X concentration, in parts per million (ppm), diluent gas concentration, in percent CO_2 or O_2; and NO_X emission rate, in pounds per million British thermal units (lb/mmBtu);

(4) A moisture monitoring system, as defined in § 75.11(b)(2) of this chapter and providing a permanent, continuous record of the stack gas moisture content, in percent H_2O;

(5) A carbon dioxide monitoring system, consisting of a CO_2 pollutant concentration monitor (or an oxygen monitor plus suitable mathematical equations from which the CO_2 concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of CO_2 emissions, in percent CO_2; and

(6) An oxygen monitoring system, consisting of an O_2 concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O_2, in percent O_2.

Control period means the period beginning January 1 of a calendar year, except as provided in § 96.106(c)(2), and ending on December 31 of the same year, inclusive.

Emissions means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the CAIR designated representative and as determined by the Administrator in accordance with subpart HH of this part.

Excess emissions means any ton of nitrogen oxides emitted by the CAIR NO_X units at a CAIR NO_X source during a control period that exceeds the CAIR NO_X emissions limitation for the source.

Fossil fuel means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.

Fossil-fuel-fired means, with regard to a unit, combusting any amount of fossil fuel in any calendar year.

Fuel oil means any petroleum-based fuel (including diesel fuel or petroleum derivatives such as oil tar) and any recycled or blended petroleum products or petroleum by-products used as a fuel whether in a liquid, solid, or gaseous state.

General account means a CAIR NO_X Allowance Tracking System account, established under subpart FF of this part, that is not a compliance account.

Generator means a device that produces electricity.

Gross electrical output means, with regard to a cogeneration unit, electricity made available for use, including any such electricity used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Heat input means, with regard to a specified period of time, the product (in mmBtu/time) of the gross calorific value of the fuel (in Btu/lb) divided by 1,000,000 Btu/mmBtu and multiplied by the fuel feed rate into a combustion device (in lb of fuel/time), as measured, recorded, and reported to the Administrator by the CAIR designated representative and determined by the Administrator in accordance with subpart HH of this part and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.

Heat input rate means the amount of heat input (in mmBtu) divided by unit operating time (in hr) or, with regard to a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Hg Budget Trading Program means a multi-state Hg air pollution control and emission reduction program approved and administered by the Administrator in accordance subpart HHHH of part 60 of this chapter and § 60.24(h)(6), or established by the Administrator under section 111 of the Clean Air Act, as a means of reducing national Hg emissions.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period no less than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input means the maximum amount of fuel per hour (in Btu/hr) that a unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.

Monitoring system means any monitoring system that meets the requirements of subpart HH of this part, including a continuous emissions monitoring system, an alternative monitoring system, or an excepted monitoring system under part 75 of this chapter.

Most stringent State or Federal NO_X emissions limitation means, with regard to a unit, the lowest NO_X emissions limitation (in terms of lb/mmBtu) that is applicable to the unit under State or Federal law, regardless of the averaging period to which the emissions limitation applies.

Nameplate capacity means, starting from the initial installation of a generator, the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings), such increased maximum amount as of such completion as specified by the person conducting the physical change.

Oil-fired means, for purposes of subpart EE of this part, combusting fuel

oil for more than 15.0 percent of the annual heat input in a specified year and not qualifying as coal-fired.

Operator means any person who operates, controls, or supervises a CAIR NO_X unit or a CAIR NO_X source and shall include, but not be limited to, any holding company, utility system, or plant manager of such a unit or source.

Owner means any of the following persons:

(1) With regard to a CAIR NO_X source or a CAIR NO_X unit at a source, respectively:

(i) Any holder of any portion of the legal or equitable title in a CAIR NO_X unit at the source or the CAIR NO_X unit;

(ii) Any holder of a leasehold interest in a CAIR NO_X unit at the source or the CAIR NO_X unit; or

(iii) Any purchaser of power from a CAIR NO_X unit at the source or the CAIR NO_X unit under a life-of-the-unit, firm power contractual arrangement; provided that, unless expressly provided for in a leasehold agreement, owner shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based (either directly or indirectly) on the revenues or income from such CAIR NO_X unit; or

(2) With regard to any general account, any person who has an ownership interest with respect to the CAIR NO_X allowances held in the general account and who is subject to the binding agreement for the CAIR authorized account representative to represent the person's ownership interest with respect to CAIR NO_X allowances.

Permitting authority means the State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to issue or revise permits to meet the requirements of the CAIR NO_X Annual Trading Program or, if no such agency has been so authorized, the Administrator.

Potential electrical output capacity means 33 percent of a unit's maximum design heat input, divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

Receive or receipt of means, when referring to the permitting authority or the Administrator, to come into possession of a document, information, or correspondence (whether sent in hard copy or by authorized electronic transmission), as indicated in an official log, or by a notation made on the document, information, or correspondence, by the permitting authority or the Administrator in the regular course of business.

Recordation, *record*, or *recorded* means, with regard to CAIR NO_X allowances, the movement of CAIR NO_X allowances by the Administrator into or between CAIR NO_X Allowance Tracking System accounts, for purposes of allocation, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in § 75.22 of this chapter.

Replacement, *replace*, or *replaced* means, with regard to a unit, the demolishing of a unit, or the permanent shutdown and permanent disabling of a unit, and the construction of another unit (the replacement unit) to be used instead of the demolished or shutdown unit (the replaced unit).

Repowered means, with regard to a unit, replacement of a coal-fired boiler with one of the following coal-fired technologies at the same source as the coal-fired boiler:

(1) Atmospheric or pressurized fluidized bed combustion;

(2) Integrated gasification combined cycle;

(3) Magnetohydrodynamics;

(4) Direct and indirect coal-fired turbines;

(5) Integrated gasification fuel cells; or

(6) As determined by the Administrator in consultation with the Secretary of Energy, a derivative of one or more of the technologies under paragraphs (1) through (5) of this definition and any other coal-fired technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of January 1, 2005.

Serial number means, for a CAIR NO_X allowance, the unique identification

number assigned to each CAIR NO_X allowance by the Administrator.

Sequential use of energy means:

(1) For a topping-cycle cogeneration unit, the use of reject heat from electricity production in a useful thermal energy application or process; or

(2) For a bottoming-cycle cogeneration unit, the use of reject heat from useful thermal energy application or process in electricity production.

Solid waste incineration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a ''solid waste incineration unit'' as defined in section 129(g)(1) of the Clean Air Act.

Source means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons. For purposes of section 502(c) of the Clean Air Act, a ''source,'' including a ''source'' with multiple units, shall be considered a single ''facility.''

State means one of the States or the District of Columbia that adopts the CAIR NO_X Annual Trading Program pursuant to § 51.123(o)(1) or (2) of this chapter.

Submit or serve means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery. Compliance with any ''submission'' or ''service'' deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Title V operating permit means a permit issued under title V of the Clean Air Act and part 70 or part 71 of this chapter.

Title V operating permit regulations means the regulations that the Administrator has approved or issued as meeting the requirements of title V of the Clean Air Act and part 70 or 71 of this chapter.

Ton means 2,000 pounds. For the purpose of determining compliance with the CAIR NO_X emissions limitation, total tons of nitrogen oxides emissions for a control period shall be calculated as the sum of all recorded hourly emissions (or the mass equivalent of the recorded hourly emission rates) in accordance with subpart HH of this part, but with any remaining fraction of a ton equal to or greater than 0.50 tons deemed to equal one ton and any remaining fraction of a ton less than 0.50 tons deemed to equal zero tons.

Topping-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful power, including electricity, and at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

Total energy input means, with regard to a cogeneration unit, total energy of all forms supplied to the cogeneration unit, excluding energy produced by the cogeneration unit itself. Each form of energy supplied shall be measured by the lower heating value of that form of energy calculated as follows:

$$LHV = HHV - 10.55(W + 9H)$$

Where:

LHV = lower heating value of fuel in Btu/lb,
HHV = higher heating value of fuel in Btu/lb,
W = Weight % of moisture in fuel, and
H = Weight % of hydrogen in fuel.

Total energy output means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.

Unit means a stationary, fossil-fuel-fired boiler or combustion turbine or other stationary, fossil-fuel-fired combustion device.

Unit operating day means a calendar day in which a unit combusts any fuel.

Unit operating hour or *hour of unit operation* means an hour in which a unit combusts any fuel.

Useful power means, with regard to a cogeneration unit, electricity or mechanical energy made available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Useful thermal energy means, with regard to a cogeneration unit, thermal energy that is:

(1) Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;

(2) Used in a heating application (*e.g.*, space heating or domestic hot water heating); or

(3) Used in a space cooling application (*i.e.*, thermal energy used by an absorption chiller).

Utility power distribution system means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25380, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006; 72 FR 59205, Oct. 19, 2007]

§ 96.103 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this subpart and subparts BB through II are defined as follows:

Btu—British thermal unit.
CO_2—carbon dioxide
H_2O—water
Hg—mercury
hr—hour
kW—kilowatt electrical
kWh—kilowatt hour
lb—pound
mmBtu—million Btu
MWe—megawatt electrical
MWh—megawatt hour
NO_X—nitrogen oxides
O2—oxygen
ppm—parts per million
scfh—standard cubic feet per hour
SO_2—sulfur dioxide
yr—year

[71 FR 25381, Apr. 28, 2006]

§ 96.104 Applicability.

(a) Except as provided in paragraph (b) of this section:

(1) The following units in a State shall be CAIR NO_X units, and any source that includes one or more such units shall be a CAIR NO_X source, subject to the requirements of this subpart and subparts BB through HH of this part: any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

(2) If a stationary boiler or stationary combustion turbine that, under paragraph (a)(1) of this section, is not a CAIR NO_X unit begins to combust fossil fuel or to serve a generator with nameplate capacity of more than 25 MWe producing electricity for sale, the unit shall become a CAIR NO_X unit as provided in paragraph (a)(1) of this section on the first date on which it both combusts fossil fuel and serves such generator.

(b) The units in a State that meet the requirements set forth in paragraph (b)(1)(i), (b)(2)(i), or (b)(2)(ii) of this section shall not be CAIR NO_X units:

(1)(i) Any unit that is a CAIR NO_X unit under paragraph (a)(1) or (2) of this section:

(A) Qualifying as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit; and

(B) Not serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

(ii) If a unit qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and meets the requirements of paragraphs (b)(1)(i) of this section for at least one calendar year, but subsequently no longer meets all such requirements, the unit shall become a CAIR NO_X unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a cogeneration unit or January 1 after the first calendar year during which the unit no longer meets the requirements of paragraph (b)(1)(i)(B) of this section.

(2)(i) Any unit that is a CAIR NO_X unit under paragraph (a)(1) or (2) of this section commencing operation before January 1, 1985:

(A) Qualifying as a solid waste incineration unit; and

(B) With an average annual fuel consumption of non-fossil fuel for 1985–1987 exceeding 80 percent (on a Btu basis) and an average annual fuel consumption of non-fossil fuel for any 3 consecutive calendar years after 1990 exceeding 80 percent (on a Btu basis).

(ii) Any unit that is a CAIR NO_X unit under paragraph (a)(1) or (2) of this section commencing operation on or after January 1, 1985:

(A) Qualifying as a solid waste incineration unit; and

(B) With an average annual fuel consumption of non-fossil fuel for the first 3 calendar years of operation exceeding 80 percent (on a Btu basis) and an average annual fuel consumption of non-fossil fuel for any 3 consecutive calendar years after 1990 exceeding 80 percent (on a Btu basis).

(iii) If a unit qualifies as a solid waste incineration unit and meets the requirements of paragraph (b)(2)(i) or (ii) of this section for at least 3 consecutive calendar years, but subsequently no longer meets all such requirements, the unit shall become a CAIR NO_X unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a solid waste incineration unit or January 1 after the first 3 consecutive calendar years after 1990 for which the unit has an average annual fuel consumption of fossil fuel of 20 percent or more.

[71 FR 25382, Apr. 28, 2006]

§ 96.105 Retired unit exemption.

(a)(1) Any CAIR NO_X unit that is permanently retired and is not a CAIR NO_X opt-in unit under subpart II of this part shall be exempt from the CAIR NO_X Annual Trading Program, except for the provisions of this section, § 96.102, § 96.103, § 96.104, § 96.106(c)(4) through (7), § 96.107, § 96.108, and subparts BB and EE through GG.

(2) The exemption under paragraph (a)(1) of this section shall become effective the day on which the CAIR NO_X unit is permanently retired. Within 30 days of the unit's permanent retirement, the CAIR designated representative shall submit a statement to the permitting authority otherwise responsible for administering any CAIR permit for the unit and shall submit a copy of the statement to the Administrator. The statement shall state, in a format prescribed by the permitting authority, that the unit was permanently retired on a specific date and will comply with the requirements of paragraph (b) of this section.

(3) After receipt of the statement under paragraph (a)(2) of this section, the permitting authority will amend any permit under subpart CC of this part covering the source at which the unit is located to add the provisions and requirements of the exemption under paragraphs (a)(1) and (b) of this section.

(b) *Special provisions.* (1) A unit exempt under paragraph (a) of this section shall not emit any nitrogen oxides, starting on the date that the exemption takes effect.

(2) The permitting authority will allocate CAIR NO_X allowances under subpart EE of this part to a unit exempt under paragraph (a) of this section.

(3) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under paragraph (a) of this section shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the permitting authority or the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(4) The owners and operators and, to the extent applicable, the CAIR designated representative of a unit exempt under paragraph (a) of this section shall comply with the requirements of the CAIR NO_X Annual Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(5) A unit exempt under paragraph (a) of this section and located at a source that is required, or but for this exemption would be required, to have a title V operating permit shall not resume operation unless the CAIR designated representative of the source submits a complete CAIR permit application under § 96.122 for the unit not less than

18 months (or such lesser time provided by the permitting authority) before the later of January 1, 2009 or the date on which the unit resumes operation.

(6) On the earlier of the following dates, a unit exempt under paragraph (a) of this section shall lose its exemption:

(i) The date on which the CAIR designated representative submits a CAIR permit application for the unit under paragraph (b)(5) of this section;

(ii) The date on which the CAIR designated representative is required under paragraph (b)(5) of this section to submit a CAIR permit application for the unit; or

(iii) The date on which the unit resumes operation, if the CAIR designated representative is not required to submit a CAIR permit application for the unit.

(7) For the purpose of applying monitoring, reporting, and recordkeeping requirements under subpart HH of this part, a unit that loses its exemption under paragraph (a) of this section shall be treated as a unit that commences commercial operation on the first date on which the unit resumes operation.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25382, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.106 Standard requirements.

(a) *Permit requirements.* (1) The CAIR designated representative of each CAIR NO_X source required to have a title V operating permit and each CAIR NO_X unit required to have a title V operating permit at the source shall:

(i) Submit to the permitting authority a complete CAIR permit application under § 96.122 in accordance with the deadlines specified in § 96.121; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review a CAIR permit application and issue or deny a CAIR permit.

(2) The owners and operators of each CAIR NO_X source required to have a title V operating permit and each CAIR NO_X unit required to have a title V operating permit at the source shall have a CAIR permit issued by the permitting authority under subpart CC of this part for the source and operate the source and the unit in compliance with such CAIR permit.

(3) Except as provided in subpart II of this part, the owners and operators of a CAIR NO_X source that is not otherwise required to have a title V operating permit and each CAIR NO_X unit that is not otherwise required to have a title V operating permit are not required to submit a CAIR permit application, and to have a CAIR permit, under subpart CC of this part for such CAIR NO_X source and such CAIR NO_X unit.

(b) *Monitoring, reporting, and recordkeeping requirements.* (1) The owners and operators, and the CAIR designated representative, of each CAIR NO_X source and each CAIR NO_X unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of subpart HH of this part.

(2) The emissions measurements recorded and reported in accordance with subpart HH of this part shall be used to determine compliance by each CAIR NO_X source with the CAIR NO_X emissions limitation under paragraph (c) of this section.

(c) *Nitrogen oxides emission requirements.* (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_X source and each CAIR NO_X unit at the source shall hold, in the source's compliance account, CAIR NO_X allowances available for compliance deductions for the control period under § 96.154(a) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_X units at the source, as determined in accordance with subpart HH of this part.

(2) A CAIR NO_X unit shall be subject to the requirements under paragraph (c)(1) of this section for the control period starting on the later of January 1, 2009 or the deadline for meeting the unit's monitor certification requirements under § 96.170(b)(1), (2), or (5) and for each control period thereafter.

(3) A CAIR NO_X allowance shall not be deducted, for compliance with the requirements under paragraph (c)(1) of this section, for a control period in a calendar year before the year for which the CAIR NO_X allowance was allocated.

(4) CAIR NO_X allowances shall be held in, deducted from, or transferred into or among CAIR NO_X Allowance Tracking System accounts in accordance with subparts FF, GG, and II of this part.

(5) A CAIR NO_X allowance is a limited authorization to emit one ton of nitrogen oxides in accordance with the CAIR NO_X Annual Trading Program. No provision of the CAIR NO_X Annual Trading Program, the CAIR permit application, the CAIR permit, or an exemption under § 96.105 and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization.

(6) A CAIR NO_X allowance does not constitute a property right.

(7) Upon recordation by the Administrator under subpart EE, FF, GG, or II of this part, every allocation, transfer, or deduction of a CAIR NO_X allowance to or from a CAIR NO_X source's compliance account is incorporated automatically in any CAIR permit of the source.

(d) *Excess emissions requirements.* If a CAIR NO_X source emits nitrogen oxides during any control period in excess of the CAIR NO_X emissions limitation, then:

(1) The owners and operators of the source and each CAIR NO_X unit at the source shall surrender the CAIR NO_X allowances required for deduction under § 96.154(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart, the Clean Air Act, and applicable State law.

(e) *Recordkeeping and reporting requirements.* (1) Unless otherwise provided, the owners and operators of the CAIR NO_X source and each CAIR NO_X unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the permitting authority or the Administrator.

(i) The certificate of representation under § 96.113 for the CAIR designated representative for the source and each CAIR NO_X unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under § 96.113 changing the CAIR designated representative.

(ii) All emissions monitoring information, in accordance with subpart HH of this part, provided that to the extent that subpart HH of this part provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO_X Annual Trading Program.

(iv) Copies of all documents used to complete a CAIR permit application and any other submission under the CAIR NO_X Annual Trading Program or to demonstrate compliance with the requirements of the CAIR NO_X Annual Trading Program.

(2) The CAIR designated representative of a CAIR NO_X source and each CAIR NO_X unit at the source shall submit the reports required under the CAIR NO_X Annual Trading Program, including those under subpart HH of this part.

(f) *Liability.* (1) Each CAIR NO_X source and each CAIR NO_X unit shall meet the requirements of the CAIR NO_X Annual Trading Program.

(2) Any provision of the CAIR NO_X Annual Trading Program that applies to a CAIR NO_X source or the CAIR designated representative of a CAIR NO_X source shall also apply to the owners and operators of such source and of the CAIR NO_X units at the source.

(3) Any provision of the CAIR NO_X Annual Trading Program that applies to a CAIR NO_X unit or the CAIR designated representative of a CAIR NO_X unit shall also apply to the owners and operators of such unit.

(g) *Effect on other authorities.* No provision of the CAIR NO_X Annual Trading Program, a CAIR permit application, a

CAIR permit, or an exemption under § 96.105 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_X source or CAIR NO_X unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25382, Apr. 28, 2006]

§ 96.107 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the CAIR NO_X Annual Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the CAIR NO_X Annual Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the CAIR NO_X Annual Trading Program, falls on a weekend or a State or Federal holiday, the time period shall be extended to the next business day.

§ 96.108 Appeal procedures.

The appeal procedures for decisions of the Administrator under the CAIR NO_X Annual Trading Program are set forth in part 78 of this chapter.

Subpart BB—CAIR Designated Representative for CAIR NO_X Sources

SOURCE: 70 FR 25339, May 12, 2005, unless otherwise noted.

§ 96.110 Authorization and responsibilities of CAIR designated representative.

(a) Except as provided under § 96.111, each CAIR NO_X source, including all CAIR NO_X units at the source, shall have one and only one CAIR designated representative, with regard to all matters under the CAIR NO_X Annual Trading Program concerning the source or any CAIR NO_X unit at the source.

(b) The CAIR designated representative of the CAIR NO_X source shall be selected by an agreement binding on the owners and operators of the source and all CAIR NO_X units at the source and shall act in accordance with the certification statement in § 96.113(a)(4)(iv).

(c) Upon receipt by the Administrator of a complete certificate of representation under § 96.113, the CAIR designated representative of the source shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the CAIR NO_X source represented and each CAIR NO_X unit at the source in all matters pertaining to the CAIR NO_X Annual Trading Program, notwithstanding any agreement between the CAIR designated representative and such owners and operators. The owners and operators shall be bound by any decision or order issued to the CAIR designated representative by the permitting authority, the Administrator, or a court regarding the source or unit.

(d) No CAIR permit will be issued, no emissions data reports will be accepted, and no CAIR NO_X Allowance Tracking System account will be established for a CAIR NO_X unit at a source, until the Administrator has received a complete certificate of representation under § 96.113 for a CAIR designated representative of the source and the CAIR NO_X units at the source.

(e)(1) Each submission under the CAIR NO_X Annual Trading Program shall be submitted, signed, and certified by the CAIR designated representative for each CAIR NO_X source on behalf of which the submission is made. Each such submission shall include the following certification statement by the CAIR designated representative: ''I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I

certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) The permitting authority and the Administrator will accept or act on a submission made on behalf of owner or operators of a CAIR NO_X source or a CAIR NO_X unit only if the submission has been made, signed, and certified in accordance with paragraph (e)(1) of this section.

§ 96.111 Alternate CAIR designated representative.

(a) A certificate of representation under § 96.113 may designate one and only one alternate CAIR designated representative, who may act on behalf of the CAIR designated representative. The agreement by which the alternate CAIR designated representative is selected shall include a procedure for authorizing the alternate CAIR designated representative to act in lieu of the CAIR designated representative.

(b) Upon receipt by the Administrator of a complete certificate of representation under § 96.113, any representation, action, inaction, or submission by the alternate CAIR designated representative shall be deemed to be a representation, action, inaction, or submission by the CAIR designated representative.

(c) Except in this section and §§ 96.102, 96.110(a) and (d), 96.112, 96.113, 96.115, 96.151, and 96.182, whenever the term ''CAIR designated representative'' is used in subparts AA through II of this part, the term shall be construed to include the CAIR designated representative or any alternate CAIR designated representative.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25382, Apr. 28, 2006]

§ 96.112 Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.

(a) *Changing CAIR designated representative.* The CAIR designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 96.113. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CAIR designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new CAIR designated representative and the owners and operators of the CAIR NO_X source and the CAIR NO_X units at the source.

(b) *Changing alternate CAIR designated representative.* The alternate CAIR designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 96.113. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate CAIR designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new alternate CAIR designated representative and the owners and operators of the CAIR NO_X source and the CAIR NO_X units at the source.

(c) *Changes in owners and operators.* (1) In the event an owner or operator of a CAIR NO_X source or a CAIR NO_X unit is not included in the list of owners and operators in the certificate of representation under § 96.113, such owner or operator shall be deemed to be subject to and bound by the certificate of representation, the representations, actions, inactions, and submissions of the CAIR designated representative and any alternate CAIR designated representative of the source or unit, and the decisions and orders of the permitting authority, the Administrator, or a court, as if the owner or operator were included in such list.

(2) Within 30 days following any change in the owners and operators of a CAIR NO_X source or a CAIR NO_X unit, including the addition of a new owner or operator, the CAIR designated representative or any alternate CAIR designated representative shall submit a revision to the certificate of representation under § 96.113 amending the list

of owners and operators to include the change.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25382, Apr. 28, 2006]

§ 96.113 Certificate of representation.

(a) A complete certificate of representation for a CAIR designated representative or an alternate CAIR designated representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the CAIR NO_X source, and each CAIR NO_X unit at the source, for which the certificate of representation is submitted, including identification and nameplate capacity of each generator served by each such unit.

(2) The name, address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the CAIR designated representative and any alternate CAIR designated representative.

(3) A list of the owners and operators of the CAIR NO_X source and of each CAIR NO_X unit at the source.

(4) The following certification statements by the CAIR designated representative and any alternate CAIR designated representative—

(i) ''I certify that I was selected as the CAIR designated representative or alternate CAIR designated representative, as applicable, by an agreement binding on the owners and operators of the source and each CAIR NO_X unit at the source.''

(ii) ''I certify that I have all the necessary authority to carry out my duties and responsibilities under the CAIR NO_X Annual Trading Program on behalf of the owners and operators of the source and of each CAIR NO_X unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions.''

(iii) ''I certify that the owners and operators of the source and of each CAIR NO_X unit at the source shall be bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.''

(iv) ''Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, a CAIR NO_X unit, or where a utility or industrial customer purchases power from a CAIR NO_X unit under a life-of-the-unit, firm power contractual arrangement, I certify that: I have given a written notice of my selection as the 'CAIR designated representative' or 'alternate CAIR designated representative', as applicable, and of the agreement by which I was selected to each owner and operator of the source and of each CAIR NO_X unit at the source; and CAIR NO_X allowances and proceeds of transactions involving CAIR NO_X allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, except that, if such multiple holders have expressly provided for a different distribution of CAIR NO_X allowances by contract, CAIR NO_X allowances and proceeds of transactions involving CAIR NO_X allowances will be deemed to be held or distributed in accordance with the contract.''

(5) The signature of the CAIR designated representative and any alternate CAIR designated representative and the dates signed.

(b) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the certificate of representation shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25382, Apr. 28, 2006]

§ 96.114 Objections concerning CAIR designated representative.

(a) Once a complete certificate of representation under § 96.113 has been submitted and received, the permitting authority and the Administrator will rely on the certificate of representation unless and until a superseding complete certificate of representation under § 96.113 is received by the Administrator.

(b) Except as provided in § 96.112(a) or (b), no objection or other communication submitted to the permitting authority or the Administrator concerning the authorization, or any representation, action, inaction, or submission, of the CAIR designated representative shall affect any representation, action, inaction, or submission of the CAIR designated representative or the finality of any decision or order by the permitting authority or the Administrator under the CAIR NO_X Annual Trading Program.

(c) Neither the permitting authority nor the Administrator will adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any CAIR designated representative, including private legal disputes concerning the proceeds of CAIR NO_X allowance transfers.

§ 96.115 Delegation by CAIR designated representative and alternate CAIR designated representative.

(a) A CAIR designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this part.

(b) An alternate CAIR designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this part.

(c) In order to delegate authority to make an electronic submission to the Administrator in accordance with paragraph (a) or (b) of this section, the CAIR designated representative or alternate CAIR designated representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(1) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such CAIR designated representative or alternate CAIR designated representative;

(2) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to as an ''agent'');

(3) For each such natural person, a list of the type or types of electronic submissions under paragraph (a) or (b) of this section for which authority is delegated to him or her; and

(4) The following certification statements by such CAIR designated representative or alternate CAIR designated representative:

(i) ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a CAIR designated representative or alternate CAIR designated representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 96.115(d) shall be deemed to be an electronic submission by me.''

(ii) ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 96.115(d), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 96.115 is terminated.''

(d) A notice of delegation submitted under paragraph (c) of this section shall be effective, with regard to the CAIR designated representative or alternate CAIR designated representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such CAIR designated representative or alternate CAIR designated representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(e) Any electronic submission covered by the certification in paragraph (c)(4)(i) of this section and made in accordance with a notice of delegation effective under paragraph (d) of this section shall be deemed to be an electronic submission by the CAIR designated representative or alternate

CAIR designated representative submitting such notice of delegation.

[71 FR 25382, Apr. 28, 2006, as amended at 71 FR 74794, Dec. 13, 2006]

Subpart CC—Permits

SOURCE: 70 FR 25339, May 12, 2005, unless otherwise noted.

§ 96.120 General CAIR NO_X Annual Trading Program permit requirements.

(a) For each CAIR NO_X source required to have a title V operating permit or required, under subpart II of this part, to have a title V operating permit or other federally enforceable permit, such permit shall include a CAIR permit administered by the permitting authority for the title V operating permit or the federally enforceable permit as applicable. The CAIR portion of the title V permit or other federally enforceable permit as applicable shall be administered in accordance with the permitting authority's title V operating permits regulations promulgated under part 70 or 71 of this chapter or the permitting authority's regulations for other federally enforceable permits as applicable, except as provided otherwise by § 96.105, this subpart, and subpart II of this part.

(b) Each CAIR permit shall contain, with regard to the CAIR NO_X source and the CAIR NO_X units at the source covered by the CAIR permit, all applicable CAIR NO_X Annual Trading Program, CAIR NO_X Ozone Season Trading Program, and CAIR SO_2 Trading Program requirements and shall be a complete and separable portion of the title V operating permit or other federally enforceable permit under paragraph (a) of this section.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25383, Apr. 28, 2006]

§ 96.121 Submission of CAIR permit applications.

(a) *Duty to apply*. The CAIR designated representative of any CAIR NO_X source required to have a title V operating permit shall submit to the permitting authority a complete CAIR permit application under § 96.122 for the source covering each CAIR NO_X unit at the source at least 18 months (or such lesser time provided by the permitting authority) before the later of January 1, 2009 or the date on which the CAIR NO_X unit commences commercial operation, except as provided in § 96.183(a).

(b) *Duty to Reapply*. For a CAIR NO_X source required to have a title V operating permit, the CAIR designated representative shall submit a complete CAIR permit application under § 96.122 for the source covering each CAIR NO_X unit at the source to renew the CAIR permit in accordance with the permitting authority's title V operating permits regulations addressing permit renewal, except as provided in § 96.183(b).

[70 FR 25339, May 12, 2005, as amended at 71 FR 25383, Apr. 28, 2006]

§ 96.122 Information requirements for CAIR permit applications.

A complete CAIR permit application shall include the following elements concerning the CAIR NO_X source for which the application is submitted, in a format prescribed by the permitting authority:

(a) Identification of the CAIR NO_X source;

(b) Identification of each CAIR NO_X unit at the CAIR NO_X source; and

(c) The standard requirements under § 96.106.

§ 96.123 CAIR permit contents and term.

(a) Each CAIR permit will contain, in a format prescribed by the permitting authority, all elements required for a complete CAIR permit application under § 96.122.

(b) Each CAIR permit is deemed to incorporate automatically the definitions of terms under § 96.102 and, upon recordation by the Administrator under subpart EE, FF, GG, or II of this part, every allocation, transfer, or deduction of a CAIR NO_X allowance to or from the compliance account of the CAIR NO_X source covered by the permit.

(c) The term of the CAIR permit will be set by the permitting authority, as necessary to facilitate coordination of the renewal of the CAIR permit with issuance, revision, or renewal of the CAIR NO_X source's title V operating

permit or other federally enforceable permit as applicable.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25383, Apr. 28, 2006]

§ 96.124 CAIR permit revisions.

Except as provided in § 96.123(b), the permitting authority will revise the CAIR permit, as necessary, in accordance with the permitting authority's title V operating permits regulations or the permitting authority's regulations for other federally enforceable permits as applicable addressing permit revisions.

Subpart DD [Reserved]

Subpart EE—CAIR NO_X Allowance Allocations

SOURCE: 70 FR 25339, May 12, 2005, unless otherwise noted.

§ 96.140 State trading budgets.

The State trading budgets for annual allocations of CAIR NO_X allowances for the control periods in 2009 through 2014 and in 2015 and thereafter are respectively as follows:

State	State trading budget for 2009–2014 (tons)	State trading budget for 2015 and thereafter (tons)
Alabama	69,020	57,517
Delaware	4,166	3,472
District of Columbia	144	120
Florida	99,445	82,871
Georgia	66,321	55,268
Illinois	76,230	63,525
Indiana	108,935	90,779
Iowa	32,692	27,243
Kentucky	83,205	69,337
Louisiana	35,512	29,593
Maryland	27,724	23,104
Michigan	65,304	54,420
Minnesota	31,443	26,203
Mississippi	17,807	14,839
Missouri	59,871	49,892
New Jersey	12,670	10,558
New York	45,617	38,014
North Carolina	62,183	51,819
Ohio	108,667	90,556
Pennsylvania	99,049	82,541
South Carolina	32,662	27,219
Tennessee	50,973	42,478
Texas	181,014	150,845
Virginia	36,074	30,062
West Virginia	74,220	61,850
Wisconsin	40,759	33,966

[70 FR 25339, May 12, 2005, as amended at 71 FR 25302, Apr. 28, 2006]

§ 96.141 Timing requirements for CAIR NO_X allowance allocations.

(a) By October 31, 2006, the permitting authority will submit to the Administrator the CAIR NO_X allowance allocations, in a format prescribed by the Administrator and in accordance with § 96.142(a) and (b), for the control periods in 2009, 2010, 2011, 2012, 2013, and 2014.

(b) By October 31, 2009 and October 31 of each year thereafter, the permitting authority will submit to the Administrator the CAIR NO_X allowance allocations, in a format prescribed by the Administrator and in accordance with § 96.142(a) and (b), for the control period in the sixth year after the year of the applicable deadline for submission under this paragraph.

(c) By October 31, 2009 and October 31 of each year thereafter, the permitting authority will submit to the Administrator the CAIR NO_X allowance allocations, in a format prescribed by the Administrator and in accordance with § 96.142(a), (c), and (d), for the control period in the year of the applicable deadline for submission under this paragraph.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25383, Apr. 28, 2006]

§ 96.142 CAIR NO_X allowance allocations.

(a)(1) The baseline heat input (in mmBtu) used with respect to CAIR NO_X allowance allocations under paragraph (b) of this section for each CAIR NO_X unit will be:

(i) For units commencing operation before January 1, 2001 the average of the 3 highest amounts of the unit's adjusted control period heat input for 2000 through 2004, with the adjusted control period heat input for each year calculated as follows:

(A) If the unit is coal-fired during the year, the unit's control period heat input for such year is multiplied by 100 percent;

(B) If the unit is oil-fired during the year, the unit's control period heat input for such year is multiplied by 60 percent; and

(C) If the unit is not subject to paragraph (a)(1)(i)(A) or (B) of this section, the unit's control period heat input for such year is multiplied by 40 percent.

(ii) For units commencing operation on or after January 1, 2001 and operating each calendar year during a period of 5 or more consecutive calendar years, the average of the 3 highest amounts of the unit's total converted control period heat input over the first such 5 years.

(2)(i) A unit's control period heat input, and a unit's status as coal-fired or oil-fired, for a calendar year under paragraph (a)(1)(i) of this section, and a unit's total tons of NO_X emissions during a calendar year under paragraph (c)(3) of this section, will be determined in accordance with part 75 of this chapter, to the extent the unit was otherwise subject to the requirements of part 75 of this chapter for the year, or will be based on the best available data reported to the permitting authority for the unit, to the extent the unit was not otherwise subject to the requirements of part 75 of this chapter for the year.

(ii) A unit's converted control period heat input for a calendar year specified under paragraph (a)(1)(ii) of this section equals:

(A) Except as provided in paragraph (a)(2)(ii)(B) or (C) of this section, the control period gross electrical output of the generator or generators served by the unit multiplied by 7,900 Btu/kWh, if the unit is coal-fired for the year, or 6,675 Btu/kWh, if the unit is not coal-fired for the year, and divided by 1,000,000 Btu/mmBtu, provided that if a generator is served by 2 or more units, then the gross electrical output of the generator will be attributed to each unit in proportion to the unit's share of the total control period heat input of such units for the year;

(B) For a unit that is a boiler and has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the total heat energy (in Btu) of the steam produced by the boiler during the control period, divided by 0.8 and by 1,000,000 Btu/mmBtu; or

(C) For a unit that is a combustion turbine and has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the control period gross electrical output of the enclosed device comprising the compressor, combustor, and turbine multiplied by 3,413 Btu/kWh, plus the total heat energy (in Btu) of the steam produced by any associated heat recovery steam generator during the control period divided by 0.8, and with the sum divided by 1,000,000 Btu/mmBtu.

(b)(1) For each control period in 2009 and thereafter, the permitting authority will allocate to all CAIR NO_X units in the State that have a baseline heat input (as determined under paragraph (a) of this section) a total amount of CAIR NO_X allowances equal to 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the tons of NO_X emissions in the State trading budget under § 96.140 (except as provided in paragraph (d) of this section).

(2) The permitting authority will allocate CAIR NO_X allowances to each CAIR NO_X unit under paragraph (b)(1) of this section in an amount determined by multiplying the total amount of CAIR NO_X allowances allocated under paragraph (b)(1) of this section by the ratio of the baseline heat input of such CAIR NO_X unit to the total amount of baseline heat input of all such CAIR NO_X units in the State and rounding to the nearest whole allowance as appropriate.

(c) For each control period in 2009 and thereafter, the permitting authority will allocate CAIR NO_X allowances to CAIR NO_X units in a State that are not allocated CAIR NO_X allowances under paragraph (b) of this section because the units do not yet have a baseline heat input under paragraph (a) of this section or because the units have a baseline heat input but all CAIR NO_X allowances available under paragraph (b) of this section for the control period are already allocated, in accordance with the following procedures:

(1) The permitting authority will establish a separate new unit set-aside for each control period. Each new unit set-aside will be allocated CAIR NO_X allowances equal to 5 percent for a control period in 2009 through 2014, and 3 percent for a control period in 2015and thereafter, of the amount of tons of

NO_X emissions in the State trading budget under § 96.140.

(2) The CAIR designated representative of such a CAIR NO_X unit may submit to the permitting authority a request, in a format specified by the permitting authority, to be allocated CAIR NO_X allowances, starting with the later of the control period in 2009 or the first control period after the control period in which the CAIR NO_X unit commences commercial operation and until the first control period for which the unit is allocated CAIR NO_X allowances under paragraph (b) of this section. A separate CAIR NO_X allowance allocation request for each control period for which CAIR NO_X allowances are sought must be submitted on or before May 1 of such control period and after the date on which the CAIR NO_X unit commences commercial operation.

(3) In a CAIR NO_X allowance allocation request under paragraph (c)(2) of this section, the CAIR designated representative may request for a control period CAIR NO_X allowances in an amount not exceeding the CAIR NO_X unit's total tons of NO_X emissions during the calendar year immediately before such control period.

(4) The permitting authority will review each CAIR NO_X allowance allocation request under paragraph (c)(2) of this section and will allocate CAIR NO_X allowances for each control period pursuant to such request as follows:

(i) The permitting authority will accept an allowance allocation request only if the request meets, or is adjusted by the permitting authority as necessary to meet, the requirements of paragraphs (c)(2) and (3) of this section.

(ii) On or after May 1 of the control period, the permitting authority will determine the sum of the CAIR NO_X allowances requested (as adjusted under paragraph (c)(4)(i) of this section) in all allowance allocation requests accepted under paragraph (c)(4)(i) of this section for the control period.

(iii) If the amount of CAIR NO_X allowances in the new unit set-aside for the control period is greater than or equal to the sum under paragraph (c)(4)(ii) of this section, then the permitting authority will allocate the amount of CAIR NO_X allowances requested (as adjusted under paragraph (c)(4)(i) of this section) to each CAIR NO_X unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section.

(iv) If the amount of CAIR NO_X allowances in the new unit set-aside for the control period is less than the sum under paragraph (c)(4)(ii) of this section, then the permitting authority will allocate to each CAIR NO_X unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section the amount of the CAIR NO_X allowances requested (as adjusted under paragraph (c)(4)(i) of this section), multiplied by the amount of CAIR NO_X allowances in the new unit set-aside for the control period, divided by the sum determined under paragraph (c)(4)(ii) of this section, and rounded to the nearest whole allowance as appropriate.

(v) The permitting authority will notify each CAIR designated representative that submitted an allowance allocation request of the amount of CAIR NO_X allowances (if any) allocated for the control period to the CAIR NO_X unit covered by the request.

(d) If, after completion of the procedures under paragraph (c)(4) of this section for a control period, any unallocated CAIR NO_X allowances remain in the new unit set-aside for the control period, the permitting authority will allocate to each CAIR NO_X unit that was allocated CAIR NO_X allowances under paragraph (b) of this section an amount of CAIR NO_X allowances equal to the total amount of such remaining unallocated CAIR NO_X allowances, multiplied by the unit's allocation under paragraph (b) of this section, divided by 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the amount of tons of NO_X emissions in the State trading budget under § 96.140, and rounded to the nearest whole allowance as appropriate.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25383, Apr. 28, 2006]

§ 96.143 Compliance supplement pool.

(a) In addition to the CAIR NO_X allowances allocated under § 96.142, the permitting authority may allocate for

the control period in 2009 up to the following amount of CAIR NO_X allowances to CAIR NO_X units in the respective State:

State	Compliance supplement pool
Alabama	10,166
Delaware	843
District Of Columbia	0
Florida	8,335
Georgia	12,397
Illinois	11,299
Indiana	20,155
Iowa	6,978
Kentucky	14,935
Louisiana	2,251
Maryland	4,670
Michigan	8,347
Minnesota	6,528
Mississippi	3,066
Missouri	9,044
New Jersey	660
New York	0
North Carolina	0
Ohio	25,037
Pennsylvania	16,009
South Carolina	2,600
Tennessee	8,944
Texas	772
Virginia	5,134
West Virginia	16,929
Wisconsin	4,898

(b) For any CAIR NO_X unit in the State that achieves NO_X emission reductions in 2007 and 2008 that are not necessary to comply with any State or federal emissions limitation applicable during such years, the CAIR designated representative of the unit may request early reduction credits, and allocation of CAIR NO_X allowances from the compliance supplement pool under paragraph (a) of this section for such early reduction credits, in accordance with the following:

(1) The owners and operators of such CAIR NO_X unit shall monitor and report the NO_X emissions rate and the heat input of the unit in accordance with subpart HH of this part in each control period for which early reduction credit is requested.

(2) The CAIR designated representative of such CAIR NO_X unit shall submit to the permitting authority by May 1, 2009 a request, in a format specified by the permitting authority, for allocation of an amount of CAIR NO_X allowances from the compliance supplement pool not exceeding the sum of the amounts (in tons) of the unit's NO_X emission reductions in 2007 and 2008 that are not necessary to comply with any State or federal emissions limitation applicable during such years, determined in accordance with subpart HH of this part.

(c) For any CAIR NO_X unit in the State whose compliance with the CAIR NO_X emissions limitation for the control period in 2009 would create an undue risk to the reliability of electricity supply during such control period, the CAIR designated representative of the unit may request the allocation of CAIR NO_X allowances from the compliance supplement pool under paragraph (a) of this section, in accordance with the following:

(1) The CAIR designated representative of such CAIR NO_X unit shall submit to the permitting authority by May 1, 2009 a request, in a format specified by the permitting authority, for allocation of an amount of CAIR NO_X allowances from the compliance supplement pool not exceeding the minimum amount of CAIR NO_X allowances necessary to remove such undue risk to the reliability of electricity supply.

(2) In the request under paragraph (c)(1) of this section, the CAIR designated representative of such CAIR NO_X unit shall demonstrate that, in the absence of allocation to the unit of the amount of CAIR NO_X allowances requested, the unit's compliance with the CAIR NO_X emissions limitation for the control period in 2009 would create an undue risk to the reliability of electricity supply during such control period. This demonstration must include a showing that it would not be feasible for the owners and operators of the unit to:

(i) Obtain a sufficient amount of electricity from other electricity generation facilities, during the installation of control technology at the unit for compliance with the CAIR NO_X emissions limitation, to prevent such undue risk; or

(ii) Obtain under paragraphs (b) and (d) of this section, or otherwise obtain, a sufficient amount of CAIR NO_X allowances to prevent such undue risk.

(d) The permitting authority will review each request under paragraph (b) or (c) of this section submitted by May 1, 2009 and will allocate CAIR NO_X allowances for the control period in 2009

to CAIR NO_X units in the State and covered by such request as follows:

(1) Upon receipt of each such request, the permitting authority will make any necessary adjustments to the request to ensure that the amount of the CAIR NO_X allowances requested meets the requirements of paragraph (b) or (c) of this section.

(2) If the State's compliance supplement pool under paragraph (a) of this section has an amount of CAIR NO_X allowances not less than the total amount of CAIR NO_X allowances in all such requests (as adjusted under paragraph (d)(1) of this section), the permitting authority will allocate to each CAIR NO_X unit covered by such requests the amount of CAIR NO_X allowances requested (as adjusted under paragraph (d)(1) of this section).

(3) If the State's compliance supplement pool under paragraph (a) of this section has a smaller amount of CAIR NO_X allowances than the total amount of CAIR NO_X allowances in all such requests (as adjusted under paragraph (d)(1) of this section), the permitting authority will allocate CAIR NO_X allowances to each CAIR NO_X unit covered by such requests according to the following formula and rounding to the nearest whole allowance as appropriate:

Unit's allocation = Unit's adjusted allocation × (State's compliance supplement pool ÷ Total adjusted allocations for all units)

Where:

'Unit's allocation' is the amount of CAIR NO_X allowances allocated to the unit from the State's compliance supplement pool. Unit's adjusted allocation'' is the amount of CAIR NO_X allowances requested for the unit under paragraph (b) or (c) of this section, as adjusted under paragraph (d)(1) of this section. ''State's compliance supplement pool'' is the amount of CAIR NO_X allowances in the State's compliance supplement pool. ''Total adjusted allocations for all units'' is the sum of the amounts of allocations requested for all units under paragraph (b) or (c) of this section, as adjusted under paragraph (d)(1) of this section.

(4) By November 30, 2009, the permitting authority will determine, and submit to the Administrator, the allocations under paragraph (d)(2) or (3)of this section.

(5) By January 1, 2010, the Administrator will record the allocations under paragraph (d)(4) of this section.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25302 and 25383, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

Subpart FF—CAIR NO_X Allowance Tracking System

SOURCE: 70 FR 25339, May 12, 2005, unless otherwise noted.

§ 96.150 [Reserved]

§ 96.151 Establishment of accounts.

(a) *Compliance accounts.* Except as provided in § 96.184(e), upon receipt of a complete certificate of representation under § 96.113, the Administrator will establish a compliance account for the CAIR NO_X source for which the certificate of representation was submitted unless the source already has a compliance account.

(b) *General accounts*—(1) *Application for general account.* (i) Any person may apply to open a general account for the purpose of holding and transferring CAIR NO_X allowances. An application for a general account may designate one and only one CAIR authorized account representative and one and only one alternate CAIR authorized account representative who may act on behalf of the CAIR authorized account representative. The agreement by which the alternate CAIR authorized account representative is selected shall include a procedure for authorizing the alternate CAIR authorized account representative to act in lieu of the CAIR authorized account representative.

(ii) A complete application for a general account shall be submitted to the Administrator and shall include the following elements in a format prescribed by the Administrator:

(A) Name, mailing address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the CAIR authorized account representative and any alternate CAIR authorized account representative;

(B) Organization name and type of organization, if applicable;

(C) A list of all persons subject to a binding agreement for the CAIR authorized account representative and any alternate CAIR authorized account representative to represent their ownership interest with respect to the CAIR NO_X allowances held in the general account;

(D) The following certification statement by the CAIR authorized account representative and any alternate CAIR authorized account representative: ''I certify that I was selected as the CAIR authorized account representative or the alternate CAIR authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to CAIR NO_X allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the CAIR NO_X Annual Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any order or decision issued to me by the Administrator or a court regarding the general account.''

(E) The signature of the CAIR authorized account representative and any alternate CAIR authorized account representative and the dates signed.

(iii) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the application for a general account shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) *Authorization of CAIR authorized account representative and alternate CAIR authorized account representative.* (i) Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section:

(A) The Administrator will establish a general account for the person or persons for whom the application is submitted.

(B) The CAIR authorized account representative and any alternate CAIR authorized account representative for the general account shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to CAIR NO_X allowances held in the general account in all matters pertaining to the CAIR NO_X Annual Trading Program, notwithstanding any agreement between the CAIR authorized account representative or any alternate CAIR authorized account representative and such person. Any such person shall be bound by any order or decision issued to the CAIR authorized account representative or any alternate CAIR authorized account representative by the Administrator or a court regarding the general account.

(C) Any representation, action, inaction, or submission by any alternate CAIR authorized account representative shall be deemed to be a representation, action, inaction, or submission by the CAIR authorized account representative.

(ii) Each submission concerning the general account shall be submitted, signed, and certified by the CAIR authorized account representative or any alternate CAIR authorized account representative for the persons having an ownership interest with respect to CAIR NO_X allowances held in the general account. Each such submission shall include the following certification statement by the CAIR authorized account representative or any alternate CAIR authorized account representative: ''I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the CAIR NO_X allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or

omitting required statements and information, including the possibility of fine or imprisonment.''

(iii) The Administrator will accept or act on a submission concerning the general account only if the submission has been made, signed, and certified in accordance with paragraph (b)(2)(ii) of this section.

(3) *Changing CAIR authorized account representative and alternate CAIR authorized account representative; changes in persons with ownership interest.* (i) The CAIR authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CAIR authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new CAIR authorized account representative and the persons with an ownership interest with respect to the CAIR NO_X allowances in the general account.

(ii) The alternate CAIR authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate CAIR authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate CAIR authorized account representative and the persons with an ownership interest with respect to the CAIR NO_X allowances in the general account.

(iii)(A) In the event a person having an ownership interest with respect to CAIR NO_X allowances in the general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representation, actions, inactions, and submissions of the CAIR authorized account representative and any alternate CAIR authorized account representative of the account, and the decisions and orders of the Administrator or a court, as if the person were included in such list.

(B) Within 30 days following any change in the persons having an ownership interest with respect to CAIR NO_X allowances in the general account, including the addition of a new person, the CAIR authorized account representative or any alternate CAIR authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the CAIR NO_X allowances in the general account to include the change.

(4) *Objections concerning CAIR authorized account representative and alternate CAIR authorized account representative.* (i) Once a complete application for a general account under paragraph (b)(1) of this section has been submitted and received, the Administrator will rely on the application unless and until a superseding complete application for a general account under paragraph (b)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (b)(3)(i) or (ii) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative for a general account shall affect any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative or the finality of any decision or order by the Administrator under the CAIR NO_X Annual Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative for a general account, including private legal disputes concerning the

proceeds of CAIR NO_X allowance transfers.

(5) *Delegation by CAIR authorized account representative and alternate CAIR authorized account representative.* (i) A CAIR authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under subparts FF and GG of this part.

(ii) An alternate CAIR authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under subparts FF and GG of this part.

(iii) In order to delegate authority to make an electronic submission to the Administrator in accordance with paragraph (b)(5)(i) or (ii) of this section, the CAIR authorized account representative or alternate CAIR authorized account representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(A) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such CAIR authorized account representative or alternate CAIR authorized account representative;

(B) The name, address, e-mail address, telephone number, and, facsimile transmission number (if any) of each such natural person (referred to as an ''agent'');

(C) For each such natural person, a list of the type or types of electronic submissions under paragraph (b)(5)(i) or (ii) of this section for which authority is delegated to him or her;

(D) The following certification statement by such CAIR authorized account representative or alternate CAIR authorized account representative: ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a CAIR authorized account representative or alternate CAIR authorized representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 96.151(b)(5)(iv) shall be deemed to be an electronic submission by me.''; and

(E) The following certification statement by such CAIR authorized account representative or alternate CAIR authorized account representative: ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 96.151 (b)(5)(iv), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 96.151 (b)(5) is terminated.''

(iv) A notice of delegation submitted under paragraph (b)(5)(iii) of this section shall be effective, with regard to the CAIR authorized account representative or alternate CAIR authorized account representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such CAIR authorized account representative or alternate CAIR authorized account representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(v) Any electronic submission covered by the certification in paragraph (b)(5)(iii)(D) of this section and made in accordance with a notice of delegation effective under paragraph (b)(5)(iv) of this section shall be deemed to be an electronic submission by the CAIR designated representative or alternate CAIR designated representative submitting such notice of delegation.

(c) *Account identification.* The Administrator will assign a unique identifying number to each account established under paragraph (a) or (b) of this section.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25383, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.152 Responsibilities of CAIR authorized account representative.

Following the establishment of a CAIR NO_X Allowance Tracking System

account, all submissions to the Administrator pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of CAIR NO_X allowances in the account, shall be made only by the CAIR authorized account representative for the account.

§ 96.153 Recordation of CAIR NO_X allowance allocations.

(a) By September 30, 2007, the Administrator will record in the CAIR NO_X source's compliance account the CAIR NO_X allowances allocated for the CAIR NO_X units at the source, as submitted by the permitting authority in accordance with § 96.141(a), for the control periods in 2009, 2010, 2011, 2012, 2013, and 2014.

(b) By December 1, 2009, the Administrator will record in the CAIR NO_X source's compliance account the CAIR NO_X allowances allocated for the CAIR NO_X units at the source, as submitted by the permitting authority in accordance with § 96.141(b), for the control period in 2015.

(c) By December 1, 2009 and December 1 of each year thereafter, the Administrator will record in the CAIR NO_X source's compliance account the CAIR NO_X allowances allocated for the CAIR NO_X units at the source, as submitted by the permitting authority in accordance with § 96.141(b), for the control period in the sixth year after the year of the applicable deadline for recordation under this paragraph.

(d) By December 1, 2009 and December 1 of each year thereafter, the Administrator will record in the CAIR NO_X source's compliance account the CAIR NO_X allowances allocated for the CAIR NO_X units at the source, as submitted by the permitting authority or determined by the Administrator in accordance with § 96.141(c), for the control period in the year of the applicable deadline for recordation under this paragraph.

(e) *Serial numbers for allocated CAIR NO_X allowances. When recording the allocation of CAIR NO_X* allowances for a CAIR NO_X unit in a compliance account, the Administrator will assign each CAIR NO_X allowance a unique identification number that will include digits identifying the year of the control period for which the CAIR NO_X allowance is allocated.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25384, Apr. 28, 2006]

EDITORIAL NOTE: At 71 FR 25384, Apr. 28, 2006, § 196.153 was amended; however, the amendment could not be incorporated due to inaccurate amendatory instruction.

§ 96.154 Compliance with CAIR NO_X emissions limitation.

(a) *Allowance transfer deadline.* The CAIR NO_X allowances are available to be deducted for compliance with a source's CAIR NO_X emissions limitation for a control period in a given calendar year only if the CAIR NO_X allowances:

(1) Were allocated for the control period in the year or a prior year; and

(2) Are held in the compliance account as of the allowance transfer deadline for the control period or are transferred into the compliance account by a CAIR NO_X allowance transfer correctly submitted for recordation under §§ 96.160 and 96.161 by the allowance transfer deadline for the control period.

(b) *Deductions for compliance.* Following the recordation, in accordance with § 96.161, of CAIR NO_X allowance transfers submitted for recordation in a source's compliance account by the allowance transfer deadline for a control period, the Administrator will deduct from the compliance account CAIR NO_X allowances available under paragraph (a) of this section in order to determine whether the source meets the CAIR NO_X emissions limitation for the control period, as follows:

(1) Until the amount of CAIR NO_X allowances deducted equals the number of tons of total nitrogen oxides emissions, determined in accordance with subpart HH of this part, from all CAIR NO_X units at the source for the control period; or

(2) If there are insufficient CAIR NO_X allowances to complete the deductions in paragraph (b)(1) of this section, until no more CAIR NO_X allowances available under paragraph (a) of this section remain in the compliance account.

(c)(1) *Identification of CAIR NO_X allowances by serial number. The CAIR authorized account representative for a source's*

compliance account may request that specific CAIR NO_X allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period in accordance with paragraph (b) or (d) of this section. Such request shall be submitted to the Administrator by the allowance transfer deadline for the control period and include, in a format prescribed by the Administrator, the identification of the CAIR NO_X source and the appropriate serial numbers.

(2) *First-in, first-out.* The Administrator will deduct CAIR NO_X allowances under paragraph (b) or (d) of this section from the source's compliance account, in the absence of an identification or in the case of a partial identification of CAIR NO_X allowances by serial number under paragraph (c)(1) of this section, on a first-in, first-out (FIFO) accounting basis in the following order:

(i) Any CAIR NO_X allowances that were allocated to the units at the source, in the order of recordation; and then

(ii) Any CAIR NO_X allowances that were allocated to any entity and transferred and recorded in the compliance account pursuant to subpart GG of this part, in the order of recordation.

(d) *Deductions for excess emissions.* (1) After making the deductions for compliance under paragraph (b) of this section for a control period in a calendar year in which the CAIR NO_X source has excess emissions, the Administrator will deduct from the source's compliance account an amount of CAIR NO_X allowances, allocated for the control period in the immediately following calendar year, equal to 3 times the number of tons of the source's excess emissions.

(2) Any allowance deduction required under paragraph (d)(1) of this section shall not affect the liability of the owners and operators of the CAIR NO_X source or the CAIR NO_X units at the source for any fine, penalty, or assessment, or their obligation to comply with any other remedy, for the same violations, as ordered under the Clean Air Act or applicable State law.

(e) *Recordation of deductions.* The Administrator will record in the appropriate compliance account all deductions from such an account under paragraphs (b) and (d) of this section and subpart II.

(f) *Administrator's action on submissions.* (1) The Administrator may review and conduct independent audits concerning any submission under the CAIR NO_X Annual Trading Program and make appropriate adjustments of the information in the submissions.

(2) The Administrator may deduct CAIR NO_X allowances from or transfer CAIR NO_X allowances to a source's compliance account based on the information in the submissions, as adjusted under paragraph (f)(1) of this section, and record such deductions and transfers.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25384, Apr. 28, 2006]

§ 96.155 Banking.

(a) CAIR NO_X allowances may be banked for future use or transfer in a compliance account or a general account in accordance with paragraph (b) of this section.

(b) Any CAIR NO_X allowance that is held in a compliance account or a general account will remain in such account unless and until the CAIR NO_X allowance is deducted or transferred under § 96.154, § 96.156, or subpart GG or II of this part.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25384, Apr. 28, 2006]

§ 96.156 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any CAIR NO_X Allowance Tracking System account. Within 10 business days of making such correction, the Administrator will notify the CAIR authorized account representative for the account.

§ 96.157 Closing of general accounts.

(a) The CAIR authorized account representative of a general account may submit to the Administrator a request to close the account, which shall include a correctly submitted allowance transfer under §§ 96.160 and 96.161 for any CAIR NO_X allowances in the account to one or more other CAIR NO_X Allowance Tracking System accounts.

(b) If a general account has no allowance transfers in or out of the account for a 12-month period or longer and does not contain any CAIR NO_X allowances, the Administrator may notify the CAIR authorized account representative for the account that the account will be closed following 20 business days after the notice is sent. The account will be closed after the 20-day period unless, before the end of the 20-day period, the Administrator receives a correctly submitted transfer of CAIR NO_X allowances into the account under §§ 96.160 and 96.161 or a statement submitted by the CAIR authorized account representative demonstrating to the satisfaction of the Administrator good cause as to why the account should not be closed.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25384, Apr. 28, 2006]

Subpart GG—CAIR NO_X Allowance Transfers

SOURCE: 70 FR 25339, May 12, 2005, unless otherwise noted.

§ 96.160 Submission of CAIR NO_X allowance transfers.

A CAIR authorized account representative seeking recordation of a CAIR NO_X allowance transfer shall submit the transfer to the Administrator. To be considered correctly submitted, the CAIR NO_X allowance transfer shall include the following elements, in a format specified by the Administrator:

(a) The account numbers for both the transferor and transferee accounts;

(b) The serial number of each CAIR NO_X allowance that is in the transferor account and is to be transferred; and

(c) The name and signature of the CAIR authorized account representative of the transferor account and the date signed.

§ 96.161 EPA recordation.

(a) Within 5 business days (except as provided in paragraph (b) of this section) of receiving a CAIR NO_X allowance transfer, the Administrator will record a CAIR NO_X allowance transfer by moving each CAIR NO_X allowance from the transferor account to the transferee account as specified by the request, provided that:

(1) The transfer is correctly submitted under § 96.160; and

(2) The transferor account includes each CAIR NO_X allowance identified by serial number in the transfer.

(b) A CAIR NO_X allowance transfer that is submitted for recordation after the allowance transfer deadline for a control period and that includes any CAIR NO_X allowances allocated for any control period before such allowance transfer deadline will not be recorded until after the Administrator completes the deductions under § 96.154 for the control period immediately before such allowance transfer deadline.

(c) Where a CAIR NO_X allowance transfer submitted for recordation fails to meet the requirements of paragraph (a) of this section, the Administrator will not record such transfer.

§ 96.162 Notification.

(a) *Notification of recordation.* Within 5 business days of recordation of a CAIR NO_X allowance transfer under § 96.161, the Administrator will notify the CAIR authorized account representatives of both the transferor and transferee accounts.

(b) *Notification of non-recordation.* Within 10 business days of receipt of a CAIR NO_X allowance transfer that fails to meet the requirements of § 96.161(a), the Administrator will notify the CAIR authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer, and

(2) The reasons for such non-recordation.

(c) Nothing in this section shall preclude the submission of a CAIR NO_X allowance transfer for recordation following notification of non-recordation.

Subpart HH—Monitoring and Reporting

SOURCE: 70 FR 25339, May 12, 2005, unless otherwise noted.

§ 96.170 General requirements.

The owners and operators, and to the extent applicable, the CAIR designated representative, of a CAIR NO_X unit,

shall comply with the monitoring, recordkeeping, and reporting requirements as provided in this subpart and in subpart H of part 75 of this chapter. For purposes of complying with such requirements, the definitions in § 96.102 and in § 72.2 of this chapter shall apply, and the terms ''affected unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') in part 75 of this chapter shall be deemed to refer to the terms ''CAIR NO_X unit,'' ''CAIR designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') respectively, as defined in § 96.102. The owner or operator of a unit that is not a CAIR NO_X unit but that is monitored under § 75.72(b)(2)(ii) of this chapter shall comply with the same monitoring, recordkeeping, and reporting requirements as a CAIR NO_X unit.

(a) *Requirements for installation, certification, and data accounting.* The owner or operator of each CAIR NO_X unit shall:

(1) Install all monitoring systems required under this subpart for monitoring NO_X mass emissions and individual unit heat input (including all systems required to monitor NO_X emission rate, NO_X concentration, stack gas moisture content, stack gas flow rate, CO_2 or O_2 concentration, and fuel flow rate, as applicable, in accordance with §§ 75.71 and 75.72 of this chapter);

(2) Successfully complete all certification tests required under § 96.171 and meet all other requirements of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraph (a)(1) of this section; and

(3) Record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section.

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the following dates. The owner or operator shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the following dates.

(1) For the owner or operator of a CAIR NO_X unit that commences commercial operation before July 1, 2007, by January 1, 2008.

(2) For the owner or operator of a CAIR NO_X unit that commences commercial operation on or after July 1, 2007, by the later of the following dates:

(i) January 1, 2008; or

(ii) 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which the unit commences commercial operation.

(3) For the owner or operator of a CAIR NO_X unit for which construction of a new stack or flue or installation of add-on NO_X emission controls is completed after the applicable deadline under paragraph (b)(1), (2), (4), or (5) of this section, by 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which emissions first exit to the atmosphere through the new stack or flue or add-on NO_X emissions controls.

(4) Notwithstanding the dates in paragraphs (b)(1) and (2) of this section, for the owner or operator of a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart II of this part, by the date specified in § 96.184(b).

(5) Notwithstanding the dates in paragraphs (b)(1) and (2) of this section, for the owner or operator of a CAIR NO_X opt-in unit under subpart II of this part, by the date on which the CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program as provided in § 96.184(g).

(c) *Reporting data.* The owner or operator of a CAIR NO_X unit that does not meet the applicable compliance date set forth in paragraph (b) of this section for any monitoring system under paragraph (a)(1) of this section shall, for each such monitoring system, determine, record, and report maximum potential (or, as appropriate, minimum potential) values for NO_X concentration, NO_X emission rate, stack gas flow rate, stack gas moisture content, fuel flow rate, and any other parameters required to determine NO_X mass emissions and heat input in accordance with § 75.31(b)(2) or (c)(3) of this chapter, section 2.4 of appendix D to part 75

of this chapter, or section 2.5 of appendix E to part 75 of this chapter, as applicable.

(d) *Prohibitions.* (1) No owner or operator of a CAIR NO_X unit shall use any alternative monitoring system, alternative reference method, or any other alternative to any requirement of this subpart without having obtained prior written approval in accordance with § 96.175.

(2) No owner or operator of a CAIR NO_X unit shall operate the unit so as to discharge, or allow to be discharged, NO_X emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(3) No owner or operator of a CAIR NO_X unit shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording NO_X mass emissions discharged into the atmosphere or heat input, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(4) No owner or operator of a CAIR NO_X unit shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by an exemption under § 96.105 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the permitting authority for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The CAIR designated representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with § 96.171(d)(3)(i).

(e) *Long-term cold storage.* The owner or operator of a CAIR NO_X unit is subject to the applicable provisions of part 75 of this chapter concerning units in long-term cold storage.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25384, Apr. 28, 2006]

§ 96.171 Initial certification and recertification procedures.

(a) The owner or operator of a CAIR NO_X unit shall be exempt from the initial certification requirements of this section for a monitoring system under § 96.170(a)(1) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with part 75 of this chapter; and

(2) The applicable quality-assurance and quality-control requirements of § 75.21 of this chapter and appendix B, appendix D, and appendix E to part 75 of this chapter are fully met for the certified monitoring system described in paragraph (a)(1) of this section.

(b) The recertification provisions of this section shall apply to a monitoring system under § 96.170(a)(1) exempt from initial certification requirements under paragraph (a) of this section.

(c) If the Administrator has previously approved a petition under § 75.17(a) or (b) of this chapter for apportioning the NO_X emission rate measured in a common stack or a petition under § 75.66 of this chapter for an alternative to a requirement in § 75.12 or § 75.17 of this chapter, the CAIR designated representative shall resubmit the petition to the Administrator under § 96.175(a) to determine whether the approval applies under the CAIR NO_X Annual Trading Program.

(d) Except as provided in paragraph (a) of this section, the owner or operator of a CAIR NO_X unit shall comply with the following initial certification and recertification procedures for a continuous monitoring system (*i.e.*, a continuous emission monitoring system and an excepted monitoring system under appendices D and E to part 75 of this chapter) under § 96.170(a)(1). The owner or operator of a unit that qualifies to use the low mass emissions

excepted monitoring methodology under §75.19 of this chapter or that qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall comply with the procedures in paragraph (e) or (f) of this section respectively.

(1) *Requirements for initial certification.* The owner or operator shall ensure that each continuous monitoring system under §96.170(a)(1)(including the automated data acquisition and handling system) successfully completes all of the initial certification testing required under §75.20 of this chapter by the applicable deadline in §96.170(b). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this subpart in a location where no such monitoring system was previously installed, initial certification in accordance with §75.20 of this chapter is required.

(2) *Requirements for recertification.* Whenever the owner or operator makes a replacement, modification, or change in any certified continuous emission monitoring system under §96.170(a)(1) that may significantly affect the ability of the system to accurately measure or record NO_X mass emissions or heat input rate or to meet the quality-assurance and quality-control requirements of §75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the monitoring system in accordance with §75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify each continuous emission monitoring system whose accuracy is potentially affected by the change, in accordance with §75.20(b) of this chapter. Examples of changes to a continuous emission monitoring system that require recertification include replacement of the analyzer, complete replacement of an existing continuous emission monitoring system, or change in location or orientation of the sampling probe or site. Any fuel flowmeter system, and any excepted NO_X monitoring system under appendix E to part 75 of this chapter, under §96.170(a)(1) are subject to the recertification requirements in §75.20(g)(6) of this chapter.

(3) *Approval process for initial certification and recertification.* Paragraphs (d)(3)(i) through (iv) of this section apply to both initial certification and recertification of a continuous monitoring system under §96.170(a)(1). For recertifications, replace the words ''certification'' and ''initial certification'' with the word ''recertification'', replace the word ''certified'' with the word ''recertified,'' and follow the procedures in §§75.20(b)(5) and (g)(7) of this chapter in lieu of the procedures in paragraph (d)(3)(v) of this section.

(i) *Notification of certification.* The CAIR designated representative shall submit to the permitting authority, the appropriate EPA Regional Office, and the Administrator written notice of the dates of certification testing, in accordance with §96.173.

(ii) *Certification application.* The CAIR designated representative shall submit to the permitting authority a certification application for each monitoring system. A complete certification application shall include the information specified in §75.63 of this chapter.

(iii) *Provisional certification date.* The provisional certification date for a monitoring system shall be determined in accordance with §75.20(a)(3) of this chapter. A provisionally certified monitoring system may be used under the CAIR NO_X Annual Trading Program for a period not to exceed 120 days after receipt by the permitting authority of the complete certification application for the monitoring system under paragraph (d)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the permitting authority does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of the date of receipt of the complete certification application by the permitting authority.

(iv) *Certification application approval process.* The permitting authority will issue a written notice of approval or

disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under paragraph (d)(3)(ii) of this section. In the event the permitting authority does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the CAIR NO_X Annual Trading Program.

(A) *Approval notice.* If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of part 75 of this chapter, then the permitting authority will issue a written notice of approval of the certification application within 120 days of receipt.

(B) *Incomplete application notice.* If the certification application is not complete, then the permitting authority will issue a written notice of incompleteness that sets a reasonable date by which the CAIR designated representative must submit the additional information required to complete the certification application. If the CAIR designated representative does not comply with the notice of incompleteness by the specified date, then the permitting authority may issue a notice of disapproval under paragraph (d)(3)(iv)(C) of this section. The 120-day review period shall not begin before receipt of a complete certification application.

(C) *Disapproval notice.* If the certification application shows that any monitoring system does not meet the performance requirements of part 75 of this chapter or if the certification application is incomplete and the requirement for disapproval under paragraph (d)(3)(iv)(B) of this section is met, then the permitting authority will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the permitting authority and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification (as defined under § 75.20(a)(3) of this chapter). The owner or operator shall follow the procedures for loss of certification in paragraph (d)(3)(v) of this section for each monitoring system that is disapproved for initial certification.

(D) *Audit decertification.* The permitting authority or, for a CAIR NO_X opt-in unit or a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart II of this part, the Administrator may issue a notice of disapproval of the certification status of a monitor in accordance with § 96.172(b).

(v) *Procedures for loss of certification.* If the permitting authority or the Administrator issues a notice of disapproval of a certification application under paragraph (d)(3)(iv)(C) of this section or a notice of disapproval of certification status under paragraph (d)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each disapproved monitoring system, for each hour of unit operation during the period of invalid data specified under § 75.20(a)(4)(iii), § 75.20(g)(7), or § 75.21(e) of this chapter and continuing until the applicable date and hour specified under § 75.20(a)(5)(i) or (g)(7) of this chapter:

(*1*) For a disapproved NO_X emission rate (*i.e.*, NO_X-diluent) system, the maximum potential NO_X emission rate, as defined in § 72.2 of this chapter.

(*2*) For a disapproved NO_X pollutant concentration monitor and disapproved flow monitor, respectively, the maximum potential concentration of NO_X and the maximum potential flow rate, as defined in sections 2.1.2.1 and 2.1.4.1 of appendix A to part 75 of this chapter.

(*3*) For a disapproved moisture monitoring system and disapproved diluent gas monitoring system, respectively, the minimum potential moisture percentage and either the maximum potential CO_2 concentration or the minimum potential O_2 concentration (as applicable), as defined in sections 2.1.5, 2.1.3.1, and 2.1.3.2 of appendix A to part 75 of this chapter.

(*4*) For a disapproved fuel flowmeter system, the maximum potential fuel

flow rate, as defined in section 2.4.2.1 of appendix D to part 75 of this chapter.

(*5*) For a disapproved excepted NO_X monitoring system under appendix E to part 75 of this chapter, the fuel-specific maximum potential NO_X emission rate, as defined in § 72.2 of this chapter.

(B) The CAIR designated representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (d)(3)(i) and (ii) of this section.

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the permitting authority's or the Administrator's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(e) *Initial certification and recertification procedures for units using the low mass emission excepted methodology under § 75.19 of this chapter*. The owner or operator of a unit qualified to use the low mass emissions (LME) excepted methodology under § 75.19 of this chapter shall meet the applicable certification and recertification requirements in §§ 75.19(a)(2) and 75.20(h) of this chapter. If the owner or operator of such a unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall also meet the certification and recertification requirements in § 75.20(g) of this chapter.

(f) *Certification/recertification procedures for alternative monitoring systems*. The CAIR designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator and, if applicable, the permitting authority under subpart E of part 75 of this chapter shall comply with the applicable notification and application procedures of § 75.20(f) of this chapter.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25385, Apr. 28, 2006]

§ 96.172 Out of control periods.

(a) Whenever any monitoring system fails to meet the quality-assurance and quality-control requirements or data validation requirements of part 75 of this chapter, data shall be substituted using the applicable missing data procedures in subpart D or subpart H of, or appendix D or appendix E to, part 75 of this chapter.

(b) *Audit decertification*. Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under § 96.171 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the permitting authority or, for a CAIR NO_X opt-in unit or a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart II of this part, the Administrator will issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the permitting authority or the Administrator. By issuing the notice of disapproval, the permitting authority or the Administrator revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the applicable initial certification or recertification procedures in § 96.171 for each disapproved monitoring system.

§ 96.173 Notifications.

The CAIR designated representative for a CAIR NO_X unit shall submit written notice to the permitting authority and the Administrator in accordance with § 75.61 of this chapter.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25385, Apr. 28, 2006]

§ 96.174 Recordkeeping and reporting.

(a) *General provisions.* The CAIR designated representative shall comply with all recordkeeping and reporting requirements in this section, the applicable recordkeeping and reporting requirements under § 75.73 of this chapter, and the requirements of § 96.110(e)(1).

(b) *Monitoring Plans.* The owner or operator of a CAIR NO_X unit shall comply with requirements of § 75.73(c) and (e) of this chapter and, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart II of this part, §§ 96.183 and 96.184(a).

(c) *Certification Applications.* The CAIR designated representative shall submit an application to the permitting authority within 45 days after completing all initial certification or recertification tests required under § 96.171, including the information required under § 75.63 of this chapter.

(d) *Quarterly reports.* The CAIR designated representative shall submit quarterly reports, as follows:

(1) The CAIR designated representative shall report the NO_X mass emissions data and heat input data for the CAIR NO_X unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(i) For a unit that commences commercial operation before July 1, 2007, the calendar quarter covering January 1, 2008 through March 31, 2008;

(ii) For a unit that commences commercial operation on or after July 1, 2007, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 96.170(b), unless that quarter is the third or fourth quarter of 2007, in which case reporting shall commence in the quarter covering January 1, 2008 through March 31, 2008;

(iii) Notwithstanding paragraphs (d)(1)(i) and (ii) of this section, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart II of this part, the calendar quarter corresponding to the date specified in § 96.184(b); and

(iv) Notwithstanding paragraphs (d)(1)(i) and (ii) of this section, for a CAIR NO_X opt-in unit under subpart II of this part, the calendar quarter corresponding to the date on which the CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program as provided in § 96.184(g).

(2) The CAIR designated representative shall submit each quarterly report to the Administrator within 30 days following the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in § 75.73(f) of this chapter.

(3) For CAIR NO_X units that are also subject to an Acid Rain emissions limitation or the CAIR NO_X Ozone Season Trading Program, CAIR SO_2 Trading Program, or Hg Budget Trading Program, quarterly reports shall include the applicable data and information required by subparts F through I of part 75 of this chapter as applicable, in addition to the NO_X mass emission data, heat input data, and other information required by this subpart.

(e) *Compliance certification.* The CAIR designated representative shall submit to the Administrator a compliance certification (in a format prescribed by the Administrator) in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(1) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications; and

(2) For a unit with add-on NO_X emission controls and for all hours where NO_X data are substituted in accordance with § 75.34(a)(1) of this chapter, the add-on emission controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B to part 75 of this chapter and the substitute data values do not systematically underestimate NO_X emissions.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25385, Apr. 28, 2006]

§ 96.175 Petitions.

(a) Except as provided in paragraph (b)(2) of this section, the CAIR designated representative of a CAIR NO_X unit that is subject to an Acid Rain emissions limitation may submit a petition under § 75.66 of this chapter to the Administrator requesting approval to apply an alternative to any requirement of this subpart. Application of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that the petition is approved in writing by the Administrator, in consultation with the permitting authority.

(b)(1) The CAIR designated representative of a CAIR NO_X unit that is not subject to an Acid Rain emissions limitation may submit a petition under § 75.66 of this chapter to the permitting authority and the Administrator requesting approval to apply an alternative to any requirement of this subpart. Application of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that the petition is approved in writing by both the permitting authority and the Administrator.

(2) The CAIR designated representative of a CAIR NO_X unit that is subject to an Acid Rain emissions limitation may submit a petition under § 75.66 of this chapter to the permitting authority and the Administrator requesting approval to apply an alternative to a requirement concerning any additional continuous emission monitoring system required under § 75.72 of this chapter. Application of an alternative to any such requirement is in accordance with this subpart only to the extent that the petition is approved in writing by both the permitting authority and the Administrator.

Subpart II—CAIR NO_X Opt-in Units

SOURCE: 70 FR 25339, May 12, 2005, unless otherwise noted.

§ 96.180 Applicability.

A CAIR NO_X opt-in unit must be a unit that:

(a) Is located in the State;

(b) Is not a CAIR NO_X unit under § 96.104 and is not covered by a retired unit exemption under § 96.105 that is in effect;

(c) Is not covered by a retired unit exemption under § 72.8 of this chapter that is in effect;

(d) Has or is required or qualified to have a title V operating permit or other federally enforceable permit; and

(e) Vents all of its emissions to a stack and can meet the monitoring, recordkeeping, and reporting requirements of subpart HH of this part.

§ 96.181 General.

(a) Except as otherwise provided in §§ 96.101 through 96.104, §§ 96.106 through 96.108, and subparts BB and CC and subparts FF through HH of this part, a CAIR NO_X opt-in unit shall be treated as a CAIR NO_X unit for purposes of applying such sections and subparts of this part.

(b) Solely for purposes of applying, as provided in this subpart, the requirements of subpart HH of this part to a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under this subpart, such unit shall be treated as a CAIR NO_X unit before issuance of a CAIR opt-in permit for such unit.

§ 96.182 CAIR designated representative.

Any CAIR NO_X opt-in unit, and any unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under this subpart, located at the same source as one or more CAIR NO_X units shall have the same CAIR designated representative and alternate CAIR designated representative as such CAIR NO_X units.

§ 96.183 Applying for CAIR opt-in permit.

(a) *Applying for initial CAIR opt-in permit.* The CAIR designated representative of a unit meeting the requirements for a CAIR NO_X opt-in unit in § 96.180 may apply for an initial CAIR opt-in permit at any time, except as provided under § 96.186(f) and (g), and, in order to apply, must submit the following:

(1) A complete CAIR permit application under § 96.122;

(2) A certification, in a format specified by the permitting authority, that the unit:

(i) Is not a CAIR NO_X unit under § 96.104 and is not covered by a retired unit exemption under § 96.105 that is in effect;

(ii) Is not covered by a retired unit exemption under § 72.8 of this chapter that is in effect;

(iii) Vents all of its emissions to a stack, and

(iv) Has documented heat input for more than 876 hours during the 6 months immediately preceding submission of the CAIR permit application under § 96.122;

(3) A monitoring plan in accordance with subpart HH of this part;

(4) A complete certificate of representation under § 96.113 consistent with § 96.182, if no CAIR designated representative has been previously designated for the source that includes the unit; and

(5) A statement, in a format specified by the permitting authority, whether the CAIR designated representative requests that the unit be allocated CAIR NO_X allowances under § 96.188(b) or § 96.188(c) (subject to the conditions in §§ 96.184(h) and 96.186(g)). If allocation under § 96.188(c) is requested, this statement shall include a statement that the owners and operators of the unit intend to repower the unit before January 1, 2015 and that they will provide, upon request, documentation demonstrating such intent.

(b) *Duty to reapply.* (1) The CAIR designated representative of a CAIR NO_X opt-in unit shall submit a complete CAIR permit application under § 96.122 to renew the CAIR opt-in unit permit in accordance with the permitting authority's regulations for title V operating permits, or the permitting authority's regulations for other federally enforceable permits if applicable, addressing permit renewal.

(2) Unless the permitting authority issues a notification of acceptance of withdrawal of the CAIR NO_X opt-in unit from the CAIR NO_X Annual Trading Program in accordance with § 96.186 or the unit becomes a CAIR NO_X unit under § 96.104, the CAIR NO_X opt-in unit shall remain subject to the requirements for a CAIR NO_X opt-in unit, even if the CAIR designated representative for the CAIR NO_X opt-in unit fails to submit a CAIR permit application that is required for renewal of the CAIR opt-in permit under paragraph (b)(1) of this section.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25385, Apr. 28, 2006]

§ 96.184 Opt-in process.

The permitting authority will issue or deny a CAIR opt-in permit for a unit for which an initial application for a CAIR opt-in permit under § 96.183 is submitted in accordance with the following:

(a) *Interim review of monitoring plan.* The permitting authority and the Administrator will determine, on an interim basis, the sufficiency of the monitoring plan accompanying the initial application for a CAIR opt-in permit under § 96.183. A monitoring plan is sufficient, for purposes of interim review, if the plan appears to contain information demonstrating that the NO_X emissions rate and heat input of the unit and all other applicable parameters are monitored and reported in accordance with subpart HH of this part. A determination of sufficiency shall not be construed as acceptance or approval of the monitoring plan.

(b) *Monitoring and reporting.* (1)(i) If the permitting authority and the Administrator determine that the monitoring plan is sufficient under paragraph (a) of this section, the owner or operator shall monitor and report the NO_X emissions rate and the heat input of the unit and all other applicable parameters, in accordance with subpart HH of this part, starting on the date of certification of the appropriate monitoring systems under subpart HH of this part and continuing until a CAIR opt-in permit is denied under § 96.184(f) or, if a CAIR opt-in permit is issued, the date and time when the unit is withdrawn from the CAIR NO_X Annual Trading Program in accordance with § 96.186.

(ii) The monitoring and reporting under paragraph (b)(1)(i) of this section shall include the entire control period immediately before the date on which the unit enters the CAIR NO_X Annual Trading Program under § 96.184(g), during which period monitoring system

availability must not be less than 90 percent under subpart HH of this part and the unit must be in full compliance with any applicable State or Federal emissions or emissions-related requirements.

(2) To the extent the NO_X emissions rate and the heat input of the unit are monitored and reported in accordance with subpart HH of this part for one or more control periods, in addition to the control period under paragraph (b)(1)(ii) of this section, during which control periods monitoring system availability is not less than 90 percent under subpart HH of this part and the unit is in full compliance with any applicable State or Federal emissions or emissions-related requirements and which control periods begin not more than 3 years before the unit enters the CAIR NO_X Annual Trading Program under § 96.184(g), such information shall be used as provided in paragraphs (c) and (d) of this section.

(c) *Baseline heat input.* The unit's baseline heat input shall equal:

(1) If the unit's NO_X emissions rate and heat input are monitored and reported for only one control period, in accordance with paragraph (b)(1) of this section, the unit's total heat input (in mmBtu) for the control period; or

(2) If the unit's NO_X emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, the average of the amounts of the unit's total heat input (in mmBtu) for the control periods under paragraphs (b)(1)(ii) and (2) of this section.

(d) *Baseline NO_X emission rate.* The unit's baseline NO_X emission rate shall equal:

(1) If the unit's NO_X emissions rate and heat input are monitored and reported for only one control period, in accordance with paragraph (b)(1) of this section, the unit's NO_X emissions rate (in lb/mmBtu) for the control period;

(2) If the unit's NO_X emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, and the unit does not have add-on NO_X emission controls during any such control periods, the average of the amounts of the unit's NO_X emissions rate (in lb/mmBtu) for the control periods under paragraphs (b)(1)(ii) and (2) of this section; or

(3) If the unit's NO_X emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, and the unit has add-on NO_X emission controls during any such control periods, the average of the amounts of the unit's NO_X emissions rate (in lb/mmBtu) for such control periods during which the unit has add-on NO_X emission controls.

(e) *Issuance of CAIR opt-in permit.* After calculating the baseline heat input and the baseline NO_X emissions rate for the unit under paragraphs (c) and (d) of this section and if the permitting authority determines that the CAIR designated representative shows that the unit meets the requirements for a CAIR NO_X opt-in unit in § 96.180 and meets the elements certified in § 96.183(a)(2), the permitting authority will issue a CAIR opt-in permit. The permitting authority will provide a copy of the CAIR opt-in permit to the Administrator, who will then establish a compliance account for the source that includes the CAIR NO_X opt-in unit unless the source already has a compliance account.

(f) *Issuance of denial of CAIR opt-in permit.* Notwithstanding paragraphs (a) through (e) of this section, if at any time before issuance of a CAIR opt-in permit for the unit, the permitting authority determines that the CAIR designated representative fails to show that the unit meets the requirements for a CAIR NO_X opt-in unit in § 96.180 or meets the elements certified in § 96.183(a)(2), the permitting authority will issue a denial of a CAIR opt-in permit for the unit.

(g) *Date of entry into CAIR NO_X Annual Trading Program.* A unit for which an initial CAIR opt-in permit is issued by the permitting authority shall become a CAIR NO_X opt-in unit, and a CAIR NO_X unit, as of the later of January 1, 2009 or January 1 of the first control period during which such CAIR opt-in permit is issued.

(h) *Repowered CAIR NO_X opt-in unit.* (1) If CAIR designated representative

requests, and the permitting authority issues a CAIR opt-in permit providing for, allocation to a CAIR NO_X opt-in unit of CAIR NO_X allowances under § 96.188(c) and such unit is repowered after its date of entry into the CAIR NO_X Annual Trading Program under paragraph (g) of this section, the repowered unit shall be treated as a CAIR NO_X opt-in unit replacing the original CAIR NO_X opt-in unit, as of the date of start-up of the repowered unit's combustion chamber.

(2) Notwithstanding paragraphs (c) and (d) of this section, as of the date of start-up under paragraph (h)(1) of this section, the repowered unit shall be deemed to have the same date of commencement of operation, date of commencement of commercial operation, baseline heat input, and baseline NO_X emission rate as the original CAIR NO_X opt-in unit, and the original CAIR NO_X opt-in unit shall no longer be treated as a CAIR NO_X opt-in unit or a CAIR NO_X unit.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25385, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.185 CAIR opt-in permit contents.

(a) Each CAIR opt-in permit will contain:

(1) All elements required for a complete CAIR permit application under § 96.122;

(2) The certification in § 96.183(a)(2);

(3) The unit's baseline heat input under § 96.184(c);

(4) The unit's baseline NO_X emission rate under § 96.184(d);

(5) A statement whether the unit is to be allocated CAIR NO_X allowances § 96.188(b) or § 96.188(c) (subject to the conditions in §§ 96.184(h) and 96.186(g));

(6) A statement that the unit may withdraw from the CAIR NO_X Annual Trading Program only in accordance with § 96.186; and

(7) A statement that the unit is subject to, and the owners and operators of the unit must comply with, the requirements of § 96.187.

(b) Each CAIR opt-in permit is deemed to incorporate automatically the definitions of terms under § 96.102 and, upon recordation by the Administrator under subpart FF or GG of this part or this subpart, every allocation, transfer, or deduction of CAIR NO_X allowances to or from the compliance account of the source that includes a CAIR NO_X opt-in unit covered by the CAIR opt-in permit.

(c) The CAIR opt-in permit shall be included, in a format specified by the permitting authority, in the CAIR permit for the source where the CAIR NO_X opt-in unit is located and in a title V operating permit or other federally enforceable permit for the source.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25385, Apr. 28, 2006]

§ 96.186 Withdrawal from CAIR NO_X Annual Trading Program.

Except as provided under paragraph (g) of this section, a CAIR NO_X opt-in unit may withdraw from the CAIR NO_X Annual Trading Program, but only if the permitting authority issues a notification to the CAIR designated representative of the CAIR NO_X opt-in unit of the acceptance of the withdrawal of the CAIR NO_X opt-in unit in accordance with paragraph (d) of this section.

(a) *Requesting withdrawal.* In order to withdraw a CAIR CAIR NO_X opt-in unit from the CAIR NO_X Annual Trading Program, the CAIR designated representative of the CAIR NO_X opt-in unit shall submit to the permitting authority a request to withdraw effective as of midnight of December 31 of a specified calendar year, which date must be at least 4 years after December 31 of the year of entry into the CAIR NO_X Annual Trading Program under § 96.184(g). The request must be submitted no later than 90 days before the requested effective date of withdrawal.

(b) *Conditions for withdrawal.* Before a CAIR NO_X opt-in unit covered by a request under paragraph (a) of this section may withdraw from the CAIR NO_X Annual Trading Program and the CAIR opt-in permit may be terminated under paragraph (e) of this section, the following conditions must be met:

(1) For the control period ending on the date on which the withdrawal is to be effective, the source that includes the CAIR NO_X opt-in unit must meet the requirement to hold CAIR NO_X allowances under § 96.106(c) and cannot have any excess emissions.

(2) After the requirement for withdrawal under paragraph (b)(1) of this section is met, the Administrator will deduct from the compliance account of the source that includes the CAIR NO_X opt-in unit CAIR NO_X allowances equal in amount to and allocated for the same or a prior control period as any CAIR NO_X allowances allocated to the CAIR NO_X opt-in unit under § 96.188 for any control period for which the withdrawal is to be effective. If there are no remaining CAIR NO_X units at the source, the Administrator will close the compliance account, and the owners and operators of the CAIR NO_X opt-in unit may submit a CAIR NO_X allowance transfer for any remaining CAIR NO_X allowances to another CAIR NO_X Allowance Tracking System in accordance with subpart GG of this part.

(c) *Notification.* (1) After the requirements for withdrawal under paragraphs (a) and (b) of this section are met (including deduction of the full amount of CAIR NO_X allowances required), the permitting authority will issue a notification to the CAIR designated representative of the CAIR NO_X opt-in unit of the acceptance of the withdrawal of the CAIR NO_X opt-in unit as of midnight on December 31 of the calendar year for which the withdrawal was requested.

(2) If the requirements for withdrawal under paragraphs (a) and (b) of this section are not met, the permitting authority will issue a notification to the CAIR designated representative of the CAIR NO_X opt-in unit that the CAIR NO_X opt-in unit's request to withdraw is denied. Such CAIR NO_X opt-in unit shall continue to be a CAIR NO_X opt-in unit.

(d) *Permit amendment.* After the permitting authority issues a notification under paragraph (c)(1) of this section that the requirements for withdrawal have been met, the permitting authority will revise the CAIR permit covering the CAIR NO_X opt-in unit to terminate the CAIR opt-in permit for such unit as of the effective date specified under paragraph (c)(1) of this section. The unit shall continue to be a CAIR NO_X opt-in unit until the effective date of the termination and shall comply with all requirements under the CAIR NO_X Annual Trading Program concerning any control periods for which the unit is a CAIR NO_X opt-in unit, even if such requirements arise or must be complied with after the withdrawal takes effect.

(e) *Reapplication upon failure to meet conditions of withdrawal.* If the permitting authority denies the CAIR NO_X opt-in unit's request to withdraw, the CAIR designated representative may submit another request to withdraw in accordance with paragraphs (a) and (b) of this section.

(f) *Ability to reapply to the CAIR NO_X Annual Trading Program.* Once a CAIR NO_X opt-in unit withdraws from the CAIR NO_X Annual Trading Program and its CAIR opt-in permit is terminated under this section, the CAIR designated representative may not submit another application for a CAIR opt-in permit under § 96.183 for such CAIR NO_X opt-in unit before the date that is 4 years after the date on which the withdrawal became effective. Such new application for a CAIR opt-in permit will be treated as an initial application for a CAIR opt-in permit under § 96.184.

(g) *Inability to withdraw.* Notwithstanding paragraphs (a) through (f) of this section, a CAIR NO_X opt-in unit shall not be eligible to withdraw from the CAIR NO_X Annual Trading Program if the CAIR designated representative of the CAIR NO_X opt-in unit requests, and the permitting authority issues a CAIR NO_X opt-in permit providing for, allocation to the CAIR NO_X opt-in unit of CAIR NO_X allowances under § 96.188(c).

[70 FR 25339, May 12, 2005, as amended at 71 FR 25385, Apr. 28, 2006]

§ 96.187 Change in regulatory status.

(a) *Notification.* If a CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 96.104, then the CAIR designated representative shall notify in writing the permitting authority and the Administrator of such change in the CAIR NO_X opt-in unit's regulatory status, within 30 days of such change.

(b) *Permitting authority's and Administrator's actions.* (1) If a CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 96.104, the permitting authority will revise the CAIR NO_X opt-in unit's CAIR opt-in permit to meet the requirements

of a CAIR permit under § 96.123, and remove the CAIR opt-in permit provisions, as of the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 96.104.

(2)(i) The Administrator will deduct from the compliance account of the source that includes the CAIR NO_X opt-in unit that becomes a CAIR NO_X unit under § 96.104, CAIR NO_X allowances equal in amount to and allocated for the same or a prior control period as:

(A) Any CAIR NO_X allowances allocated to the CAIR NO_X opt-in unit under § 96.188 for any control period after the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 96.104; and

(B) If the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 96.104 is not December 31, the CAIR NO_X allowances allocated to the CAIR NO_X opt-in unit under § 96.188 for the control period that includes the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 96.104, multiplied by the ratio of the number of days, in the control period, starting with the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 96.104 divided by the total number of days in the control period and rounded to the nearest whole allowance as appropriate.

(ii) The CAIR designated representative shall ensure that the compliance account of the source that includes the CAIR NO_X opt-in unit that becomes a CAIR NO_X unit under § 96.104 contains the CAIR NO_X allowances necessary for completion of the deduction under paragraph (b)(2)(i) of this section.

(3)(i) For every control period after the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 96.104, the CAIR NO_X opt-in unit will be allocated CAIR NO_X allowances under § 96.142.

(ii) If the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 96.104 is not December 31, the following amount of CAIR NO_X allowances will be allocated to the CAIR NO_X opt-in unit (as a CAIR NO_X unit) under § 96.142 for the control period that includes the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 96.104:

(A) The amount of CAIR NO_X allowances otherwise allocated to the CAIR NO_X opt-in unit (as a CAIR NO_X unit) under § 96.142 for the control period multiplied by;

(B) The ratio of the number of days, in the control period, starting with the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 96.104, divided by the total number of days in the control period; and

(C) Rounded to the nearest whole allowance as appropriate.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25385, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.188 CAIR NO_X allowance allocations to CAIR NO_X opt-in units.

(a) *Timing requirements.* (1) When the CAIR opt-in permit is issued under § 96.184(e), the permitting authority will allocate CAIR NO_X allowances to the CAIR NO_X opt-in unit, and submit to the Administrator the allocation for the control period in which a CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program under § 96.184(g), in accordance with paragraph (b) or (c) of this section.

(2) By no later than October 31 of the control period after the control period in which a CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program under § 96.184(g) and October 31 of each year thereafter, the permitting authority will allocate CAIR NO_X allowances to the CAIR NO_X opt-in unit, and submit to the Administrator the allocation for the control period that includes such submission deadline and in which the unit is a CAIR NO_X opt-in unit, in accordance with paragraph (b) or (c) of this section.

(b) *Calculation of allocation.* For each control period for which a CAIR NO_X opt-in unit is to be allocated CAIR NO_X allowances, the permitting authority will allocate in accordance with the following procedures:

(1) The heat input (in mmBtu) used for calculating the CAIR NO_X allowance allocation will be the lesser of:

(i) The CAIR NO_X opt-in unit's baseline heat input determined under § 96.184(c); or

(ii) The CAIR NO_X opt-in unit's heat input, as determined in accordance with subpart HH of this part, for the

immediately prior control period, except when the allocation is being calculated for the control period in which the CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program under § 96.184(g).

(2) The NO_X emission rate (in lb/mmBtu) used for calculating CAIR NO_X allowance allocations will be the lesser of:

(i) The CAIR NO_X opt-in unit's baseline NO_X emissions rate (in lb/mmBtu) determined under § 96.184(d) and multiplied by 70 percent; or

(ii) The most stringent State or Federal NO_X emissions limitation applicable to the CAIR NO_X opt-in unit at any time during the control period for which CAIR NO_X allowances are to be allocated.

(3) The permitting authority will allocate CAIR NO_X allowances to the CAIR NO_X opt-in unit in an amount equaling the heat input under paragraph (b)(1) of this section, multiplied by the NO_X emission rate under paragraph (b)(2) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole allowance as appropriate.

(c) Notwithstanding paragraph (b) of this section and if the CAIR designated representative requests, and the permitting authority issues a CAIR opt-in permit (based on a demonstration of the intent to repower stated under § 96.183(a)(5)) providing for, allocation to a CAIR NO_X opt-in unit of CAIR NO_X allowances under this paragraph (subject to the conditions in §§ 96.184(h) and 96.186(g)), the permitting authority will allocate to the CAIR NO_X opt-in unit as follows:

(1) For each control period in 2009 through 2014 for which the CAIR NO_X opt-in unit is to be allocated CAIR NO_X allowances,

(i) The heat input (in mmBtu) used for calculating CAIR NO_X allowance allocations will be determined as described in paragraph (b)(1) of this section.

(ii) The NO_X emission rate (in lb/mmBtu) used for calculating CAIR NO_X allowance allocations will be the lesser of:

(A) The CAIR NO_X opt-in unit's baseline NO_X emissions rate (in lb/mmBtu) determined under § 96.184(d); or

(B) The most stringent State or Federal NO_X emissions limitation applicable to the CAIR NO_X opt-in unit at any time during the control period in which the CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program under § 96.184(g).

(iii) The permitting authority will allocate CAIR NO_X allowances to the CAIR NO_X opt-in unit in an amount equaling the heat input under paragraph (c)(1)(i) of this section, multiplied by the NO_X emission rate under paragraph (c)(1)(ii) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole allowance as appropriate.

(2) For each control period in 2015 and thereafter for which the CAIR NO_X opt-in unit is to be allocated CAIR NO_X allowances,

(i) The heat input (in mmBtu) used for calculating the CAIR NO_X allowance allocations will be determined as described in paragraph (b)(1) of this section.

(ii) The NO_X emission rate (in lb/mmBtu) used for calculating the CAIR NO_X allowance allocation will be the lesser of:

(A) 0.15 lb/mmBtu;

(B) The CAIR NO_X opt-in unit's baseline NO_X emissions rate (in lb/mmBtu) determined under § 96.184(d); or

(C) The most stringent State or Federal NO_X emissions limitation applicable to the CAIR NO_X opt-in unit at any time during the control period for which CAIR NO_X allowances are to be allocated.

(iii) The permitting authority will allocate CAIR NO_X allowances to the CAIR NO_X opt-in unit in an amount equaling the heat input under paragraph (c)(2)(i) of this section, multiplied by the NO_X emission rate under paragraph (c)(2)(ii) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole allowance as appropriate.

(d) *Recordation*. (1) The Administrator will record, in the compliance account of the source that includes the CAIR NO_X opt-in unit, the CAIR NO_X allowances allocated by the permitting authority to the CAIR NO_X opt-in unit under paragraph (a)(1) of this section.

(2) By December 1 of the control period in which a CAIR NO_X opt-in unit

enters the CAIR NO_X Annual Trading Program under § 96.184(g) and December 1 of each year thereafter, the Administrator will record, in the compliance account of the source that includes the CAIR NO_X opt-in unit, the CAIR NO_X allowances allocated by the permitting authority to the CAIR NO_X opt-in unit under paragraph (a)(2) of this section.

[70 FR 25339, May 12, 2005, as amended at 71 FR 25385, Apr. 28, 2006]

Subparts JJ–ZZ [Reserved]

Subpart AAA—CAIR SO_2 Trading Program General Provisions

SOURCE: 70 FR 25362, May 12, 2005, unless otherwise noted.

§ 96.201 Purpose.

This subpart and subparts BBB through III establish the model rule comprising general provisions and the designated representative, permitting, allowance, monitoring, and opt-in provisions for the State Clean Air Interstate Rule (CAIR) SO_2 Trading Program, under section 110 of the Clean Air Act and § 51.124 of this chapter, as a means of mitigating interstate transport of fine particulates and sulfur dioxide. The owner or operator of a unit or a source shall comply with the requirements of this subpart and subparts BBB through III as a matter of federal law only if the State with jurisdiction over the unit and the source incorporates by reference such subparts or otherwise adopts the requirements of such subparts in accordance with § 51.124(o)(1) or (2) of this chapter, the State submits to the Administrator one or more revisions of the State implementation plan that include such adoption, and the Administrator approves such revisions. If the State adopts the requirements of such subparts in accordance with § 51.124(o)(1) or (2) of this chapter, then the State authorizes the Administrator to assist the State in implementing the CAIR SO_2 Trading Program by carrying out the functions set forth for the Administrator in such subparts.

§ 96.202 Definitions.

The terms used in this subpart and subparts BBB through III shall have the meanings set forth in this section as follows:

Account number means the identification number given by the Administrator to each CAIR SO_2 Allowance Tracking System account.

Acid Rain emissions limitation means a limitation on emissions of sulfur dioxide or nitrogen oxides under the Acid Rain Program.

Acid Rain Program means a multistate sulfur dioxide and nitrogen oxides air pollution control and emission reduction program established by the Administrator under title IV of the CAA and parts 72 through 78 of this chapter.

Administrator means the Administrator of the United States Environmental Protection Agency or the Administrator's duly authorized representative.

Allocate or *allocation* means, with regard to CAIR SO_2 allowances issued under the Acid Rain Program, the determination by the Administrator of the amount of such CAIR SO_2 allowances to be initially credited to a CAIR SO_2 unit or other entity and, with regard to CAIR SO_2 allowances issued under provisions of a State implementation plan that are approved under § 51.124(o)(1) or (2) or (r) of this chapter or § 97.288 of this chapter, the determination by a permitting authority of the amount of such CAIR SO_2 allowances to be initially credited to a CAIR SO_2 unit or other entity.

Allowance transfer deadline means, for a control period, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately following the control period and is the deadline by which a CAIR SO_2 allowance transfer must be submitted for recordation in a CAIR SO_2 source's compliance account in order to be used to meet the source's CAIR SO_2 emissions limitation for such control period in accordance with § 96.254.

Alternate CAIR designated representative means, for a CAIR SO_2 source and each CAIR SO_2 unit at the source, the natural person who is authorized by the owners and operators of the source

and all such units at the source, in accordance with subparts BBB and III of this part, to act on behalf of the CAIR designated representative in matters pertaining to the CAIR SO_2 Trading Program. If the CAIR SO_2 source is also a CAIR NO_X source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR NO_X Annual Trading Program. If the CAIR SO_2 source is also a CAIR NO_X Ozone Season source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR NO_X Ozone Season Trading Program. If the CAIR SO_2 source is also subject to the Acid Rain Program, then this natural person shall be the same person as the alternate designated representative under the Acid Rain Program. If the CAIR SO_2 source is also subject to the Hg Budget Trading Program, then this natural person shall be the same person as the alternate Hg designated representative under the Hg Budget Trading Program.

Automated data acquisition and handling system or *DAHS* means that component of the continuous emission monitoring system, or other emissions monitoring system approved for use under subpart HHH of this part, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by subpart HHH of this part.

Biomass means—

(1) Any organic material grown for the purpose of being converted to energy;

(2) Any organic byproduct of agriculture that can be converted into energy; or

(3) Any material that can be converted into energy and is nonmerchantable for other purposes, that is segregated from other nonmerchantable material, and that is;

(i) A forest-related organic resource, including mill residues, precommercial thinnings, slash, brush, or byproduct from conversion of trees to merchantable material; or

(ii) A wood material, including pallets, crates, dunnage, manufacturing and construction materials (other than pressure-treated, chemically-treated, or painted wood products), and landscape or right-of-way tree trimmings.

Boiler means an enclosed fossil- or other-fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

Bottoming-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful thermal energy and at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

CAIR authorized account representative means, with regard to a general account, a responsible natural person who is authorized, in accordance with subparts BBB, FFF, and III of this part, to transfer and otherwise dispose of CAIR SO_2 allowances held in the general account and, with regard to a compliance account, the CAIR designated representative of the source.

CAIR designated representative means, for a CAIR SO_2 source and each CAIR SO_2 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with subparts BBB and III of this part, to represent and legally bind each owner and operator in matters pertaining to the CAIR SO_2 Trading Program. If the CAIR SO_2 source is also a CAIR NO_X source, then this natural person shall be the same person as the CAIR designated representative under the CAIR NO_X Annual Trading Program. If the CAIR SO_2 source is also a CAIR NO_X Ozone Season source, then this natural person shall be the same person as the CAIR designated representative under the CAIR NO_X Ozone Season Trading Program. If the CAIR SO_2 source is also subject to the Acid Rain Program, then this natural person shall be the same person as the designated representative under the Acid Rain Program. If the CAIR SO_2 source is also subject to the Hg Budget Trading Program, then this natural person

shall be the same person as the Hg designated representative under the Hg Budget Trading Program.

CAIR NO $_X$ *Annual Trading Program* means a multi-state nitrogen oxides air pollution control and emission reduction program approved and administered by the Administrator in accordance with subparts AA through II of this part and § 51.123(o)(1) or (2) of this chapter or established by the Administrator in accordance with subparts AA through II of part 97 of this chapter and §§ 51.123(p) and 52.35 of this chapter, as a means of mitigating interstate transport of fine particulates and nitrogen oxides.

CAIR NO_X *Ozone Season source* means a source that includes one or more CAIR NO_X Ozone Season units.

CAIR NO_X *Ozone Season Trading Program* means a multi-state nitrogen oxides air pollution control and emission reduction program approved and administered by the Administrator in accordance with subparts AAAA through IIII of this part and § 51.123(aa)(1) or (2) (and (bb)(1)), (bb)(2), or (dd) of this chapter or established by the Administrator in accordance with subparts AA through II of part 97 of this chapter and §§ 51.123(p) and 52.35 of this chapter, as a means of mitigating interstate transport of ozone and nitrogen oxides.

CAIR NO_X *source* means a source that is subject to the CAIR NO_X Ozone Season Trading Program.

CAIR permit means the legally binding and federally enforceable written document, or portion of such document, issued by the permitting authority under subpart CCC of this part, including any permit revisions, specifying the CAIR SO_2 Trading Program requirements applicable to a CAIR SO_2 source, to each CAIR SO_2 unit at the source, and to the owners and operators and the CAIR designated representative of the source and each such unit.

CAIR SO_2 *allowance* means a limited authorization issued by the Administrator under the Acid Rain Program, or by a permitting authority under provisions of a State implementation plan that are approved under § 51.124(o)(1) or (2) or (r) of this chapter or § 97.288 of this chapter,'', by designating the last sentence of the definition as paragraph (4), and by revising in paragraph (4) the words ''(Program or under the provisions of a State implementation plan that is approved under § 51.124(o)(1) or (2) of this chapter'' to read ''(Program, provisions of a State implementation plan that are approved under § 51.124(o)(1) or (2) or (r) of this chapter, or § 97.288 of this chapter, to emit sulfur dioxide during the control period of the specified calendar year for which the authorization is allocated or of any calendar year thereafter under the CAIR SO_2 Trading Program as follows:

(1) For one CAIR SO_2 allowance allocated for a control period in a year before 2010, one ton of sulfur dioxide, except as provided in § 96.254(b);

(2) For one CAIR SO_2 allowance allocated for a control period in 2010 through 2014, 0.50 ton of sulfur dioxide, except as provided in § 96.254(b); and

(3) For one CAIR SO_2 allowance allocated for a control period in 2015 or later, 0.35 ton of sulfur dioxide, except as provided in § 96.254(b).

An authorization to emit sulfur dioxide that is not issued under the Acid Rain Program or under the provisions of a State implementation plan that is approved under § 51.124(o)(1) or (2) of this chapter shall not be a CAIR SO_2 allowance.

CAIR SO_2 *allowance deduction* or *deduct CAIR* SO_2 *allowances* means the permanent withdrawal of CAIR SO_2 allowances by the Administrator from a compliance account, *e.g.*, in order to account for a specified number of tons of total sulfur dioxide emissions from all CAIR SO_2 units at a CAIR SO_2 source for a control period, determined in accordance with subpart HHH of this part, or to account for excess emissions.

CAIR SO_2 *Allowance Tracking System* means the system by which the Administrator records allocations, deductions, and transfers of CAIR SO_2 allowances under the CAIR SO_2 Trading Program. This is the same system as the Allowance Tracking System under § 72.2 of this chapter by which the Administrator records allocations, deduction, and transfers of Acid Rain SO_2 allowances under the Acid Rain Program.

CAIR SO_2 *Allowance Tracking System account* means an account in the CAIR

SO_2 Allowance Tracking System established by the Administrator for purposes of recording the allocation, holding, transferring, or deducting of CAIR SO_2 allowances. Such allowances will be allocated, held, deducted, or transferred only as whole allowances.

CAIR SO_2 allowances held or *hold CAIR SO_2 allowances* means the CAIR SO_2 allowances recorded by the Administrator, or submitted to the Administrator for recordation, in accordance with subparts FFF, GGG, and III of this part or part 73 of this chapter, in a CAIR SO_2 Allowance Tracking System account.

CAIR SO_2 emissions limitation means, for a CAIR SO_2 source, the tonnage equivalent, in SO_2 emissions in a control period, of the CAIR SO_2 allowances available for deduction for the source under § 96.254(a) and (b) for the control period.

CAIR SO_2 source means a source that includes one or more CAIR SO_2 units.

CAIR SO_2 Trading Program means a multi-state sulfur dioxide air pollution control and emission reduction program approved and administered by the Administrator in accordance with subparts AAA through III of this part and § 51.124(o)(1) or (2) of this chapter or established by the Administrator in accordance with subparts AAA through III of part 97 of this chapter and §§ 51.124(r) and 52.36 of this chapter, as a means of mitigating interstate transport of fine particulates and sulfur dioxide.

CAIR SO_2 unit means a unit that is subject to the CAIR SO_2 Trading Program under § 96.204 and, except for purposes of § 96.205, a CAIR SO_2 opt-in unit under subpart III of this part.

Clean Air Act or *CAA* means the Clean Air Act, 42 U.S.C. 7401, *et seq*.

Coal means any solid fuel classified as anthracite, bituminous, subbituminous, or lignite.

Coal-derived fuel means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal, or chemical processing of coal.

Coal-fired means combusting any amount of coal or coal-derived fuel, alone, or in combination with any amount of any other fuel.

Cogeneration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine:

(1) Having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and

(2) Producing during the 12-month period starting on the date the unit first produces electricity and during any calendar year after the calendar year in which the unit first produces electricity—

(i) For a topping-cycle cogeneration unit,

(A) Useful thermal energy not less than 5 percent of total energy output; and

(B) Useful power that, when added to one-half of useful thermal energy produced, is not less then 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output.

(ii) For a bottoming-cycle cogeneration unit, useful power not less than 45 percent of total energy input;

(3) Provided that the total energy input under paragraphs (2)(i)(B) and (2)(ii) of this definition shall equal the unit's total energy input from all fuel except biomass if the unit is a boiler.

Combustion turbine means:

(1) An enclosed device comprising a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and

(2) If the enclosed device under paragraph (1) of this definition is combined cycle, any associated duct burner, heat recovery steam generator, and steam turbine.

Commence commercial operation means, with regard to a unit:

(1) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in § 96.205 and § 96.284(h).

(i) For a unit that is a CAIR SO_2 unit under § 96.204 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in

paragraph (1) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a CAIR SO_2 unit under § 96.204 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

(2) Notwithstanding paragraph (1) of this definition and except as provided in § 96.205, for a unit that is not a CAIR SO_2 unit under § 96.204 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a CAIR SO_2 unit under § 96.204.

(i) For a unit with a date for commencement of commercial operation as defined in paragraph (2) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in paragraph (2) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

Commence operation means:

(1) To have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber, except as provided in § 96.284(h).

(2) For a unit that undergoes a physical change (other than replacement of the unit by a unit at the same source) after the date the unit commences operation as defined in paragraph (1) of this definition, such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit.

(3) For a unit that is replaced by a unit at the same source (*e.g.*, repowered) after the date the unit commences operation as defined in paragraph (1) of this definition, such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in paragraph (1), (2), or (3) of this definition as appropriate, except as provided in (96.284(h).

Compliance account means a CAIR SO_2 Allowance Tracking System account, established by the Administrator for a CAIR SO_2 source subject to an Acid Rain emissions limitations under § 73.31(a) or (b) of this chapter or for any other CAIR SO_2 source under subpart FFF or III of this part, in which any CAIR SO_2 allowance allocations for the CAIR SO_2 units at the source are initially recorded and in which are held any CAIR SO_2 allowances available for use for a control period in order to meet the source's CAIR SO_2 emissions limitation in accordance with § 96.254.

Continuous emission monitoring system or *CEMS* means the equipment required under subpart HHH of this part to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes (using an automated data acquisition and handling system (DAHS)), a permanent record of sulfur dioxide emissions, stack gas volumetric flow rate, stack gas moisture content, and oxygen or carbon dioxide concentration (as applicable), in a manner consistent with part 75 of this chapter. The following systems are the principal types of continuous emission monitoring systems required under subpart HHH of this part:

(1) A flow monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);

(2) A sulfur dioxide monitoring system, consisting of a SO_2 pollutant concentration monitor and an automated data acquisition handling system and providing a permanent, continuous record of SO_2 emissions, in parts per million (ppm);

(3) A moisture monitoring system, as defined in § 75.11(b)(2) of this chapter and providing a permanent, continuous record of the stack gas moisture content, in percent H_2O;

(4) A carbon dioxide monitoring system, consisting of a CO_2 pollutant concentration monitor (or an oxygen monitor plus suitable mathematical equations from which the CO_2 concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of CO_2 emissions, in percent CO_2; and

(5) An oxygen monitoring system, consisting of an O_2 concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O_2 in percent O_2.

Control period means the period beginning January 1 of a calendar year, except as provided in § 96.206(c)(2), and ending on December 31 of the same year, inclusive.

Emissions means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the CAIR designated representative and as determined by the Administrator in accordance with subpart HHH of this part.

Excess emissions means any ton, or portion of a ton, of sulfur dioxide emitted by the CAIR SO_2 units at a CAIR SO_2 source during a control period that exceeds the CAIR SO_2 emissions limitation for the source, provided that any portion of a ton of excess emissions shall be treated as one ton of excess emissions.

Fossil fuel means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.

Fossil-fuel-fired means, with regard to a unit, combusting any amount of fossil fuel in any calendar year.

General account means a CAIR SO_2 Allowance Tracking System account, established under subpart FFF of this part, that is not a compliance account.

Generator means a device that produces electricity.

Heat input means, with regard to a specified period of time, the product (in mmBtu/time) of the gross calorific value of the fuel (in Btu/lb) divided by 1,000,000 Btu/mmBtu and multiplied by the fuel feed rate into a combustion device (in lb of fuel/time), as measured, recorded, and reported to the Administrator by the CAIR designated representative and determined by the Administrator in accordance with subpart HHH of this part and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.

Heat input rate means the amount of heat input (in mmBtu) divided by unit operating time (in hr) or, with regard to a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Hg Budget Trading Program means a multi-state Hg air pollution control and emission reduction program approved and administered by the Administrator in accordance subpart HHHH of part 60 of this chapter and § 60.24(h)(6), or established by the Administrator under section 111 of the Clean Air Act, as a means of reducing national Hg emissions.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period no less than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input means the maximum amount of fuel per hour (in Btu/hr) that a unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.

Monitoring system means any monitoring system that meets the requirements of subpart HHH of this part, including a continuous emissions monitoring system, an alternative monitoring system, or an excepted monitoring system under part 75 of this chapter.

Most stringent State or Federal SO_2 emissions limitation means, with regard to a unit, the lowest SO_2 emissions limitation (in terms of lb/mmBtu) that is applicable to the unit under State or Federal law, regardless of the averaging period to which the emissions limitation applies.

Nameplate capacity means, starting from the initial installation of a generator, the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings), such increased maximum amount as of such completion as specified by the person conducting the physical change.

Operator means any person who operates, controls, or supervises a CAIR SO_2 unit or a CAIR SO_2 source and shall include, but not be limited to, any holding company, utility system, or plant manager of such a unit or source.

Owner means any of the following persons:

(1) With regard to a CAIR SO_2 source or a CAIR SO_2 unit at a source, respectively:

(i) Any holder of any portion of the legal or equitable title in a CAIR SO_2 unit at the source or the CAIR SO_2 unit;

(ii) Any holder of a leasehold interest in a CAIR SO_2 unit at the source or the CAIR SO_2 unit; or

(iii) Any purchaser of power from a CAIR SO_2 unit at the source or the CAIR SO_2 unit under a life-of-the-unit, firm power contractual arrangement; provided that, unless expressly provided for in a leasehold agreement, owner shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based (either directly or indirectly) on the revenues or income from such CAIR SO_2 unit; or

(2) With regard to any general account, any person who has an ownership interest with respect to the CAIR SO_2 allowances held in the general account and who is subject to the binding agreement for the CAIR authorized account representative to represent the person's ownership interest with respect to CAIR SO_2 allowances.

Permitting authority means the State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to issue or revise permits to meet the requirements of the CAIR SO_2 Trading Program or, if no such agency has been so authorized, the Administrator.

Potential electrical output capacity means 33 percent of a unit's maximum design heat input, divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

Receive or receipt of means, when referring to the permitting authority or the Administrator, to come into possession of a document, information, or correspondence (whether sent in hard copy or by authorized electronic transmission), as indicated in an official log, or by a notation made on the document, information, or correspondence,

by the permitting authority or the Administrator in the regular course of business.

Recordation, record, or *recorded* means, with regard to CAIR SO_2 allowances, the movement of CAIR SO_2 allowances by the Administrator into or between CAIR SO_2 Allowance Tracking System accounts, for purposes of allocation, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in § 75.22 of this chapter.

Replacement, replace, or *replaced* means, with regard to a unit, the demolishing of a unit, or the permanent shutdown and permanent disabling of a unit, and the construction of another unit (the replacement unit) to be used instead of the demolished or shutdown unit (the replaced unit).

Repowered means, with regard to a unit, replacement of a coal-fired boiler with one of the following coal-fired technologies at the same source as the coal-fired boiler:

(1) Atmospheric or pressurized fluidized bed combustion;

(2) Integrated gasification combined cycle;

(3) Magnetohydrodynamics;

(4) Direct and indirect coal-fired turbines;

(5) Integrated gasification fuel cells; or

(6) As determined by the Administrator in consultation with the Secretary of Energy, a derivative of one or more of the technologies under paragraphs (1) through (5) of this definition and any other coal-fired technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of January 1, 2005.

Serial number means, for a CAIR SO_2 allowance, the unique identification number assigned to each CAIR SO_2 allowance by the Administrator.

Sequential use of energy means:

(1) For a topping-cycle cogeneration unit, the use of reject heat from electricity production in a useful thermal energy application or process; or

(2) For a bottoming-cycle cogeneration unit, the use of reject heat from useful thermal energy application or process in electricity production.

Solid waste incineration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a ''solid waste incineration unit'' as defined in section 129(g)(1) of the Clean Air Act.

Source means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons. For purposes of section 502(c) of the Clean Air Act, a ''source,'' including a ''source'' with multiple units, shall be considered a single ''facility.''

State means one of the States or the District of Columbia that adopts the CAIR SO_2 Trading Program pursuant to § 51.124 (o)(1) or (2) of this chapter.

Submit or serve means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery. Compliance with any ''submission'' or ''service'' deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Title V operating permit means a permit issued under title V of the Clean Air Act and part 70 or part 71 of this chapter.

Title V operating permit regulations means the regulations that the Administrator has approved or issued as meeting the requirements of title V of the Clean Air Act and part 70 or 71 of this chapter.

Ton means 2,000 pounds. For the purpose of determining compliance with the CAIR SO_2 emissions limitation, total tons of sulfur dioxide emissions for a control period shall be calculated as the sum of all recorded hourly emissions (or the mass equivalent of the recorded hourly emission rates) in accordance with subpart HHH of this part, but with any remaining fraction of a ton equal to or greater than 0.50 tons deemed to equal one ton and any

remaining fraction of a ton less than 0.50 tons deemed to equal zero tons.

Topping-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful power, including electricity, and at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

Total energy input means, with regard to a cogeneration unit, total energy of all forms supplied to the cogeneration unit, excluding energy produced by the cogeneration unit itself. Each form of energy supplied shall be measured by the lower heating value of that form of energy calculated as follows:

$$LHV = HHV - 10.55(W + 9H)$$

Where:

LHV = lower heating value of fuel in Btu/lb,
HHV = higher heating value of fuel in Btu/lb,
W = Weight % of moisture in fuel, and
H = Weight % of hydrogen in fuel.

Total energy output means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.

Unit means a stationary, fossil-fuel-fired boiler or combustion turbine or other stationary, fossil-fuel-fired combustion device.

Unit operating day means a calendar day in which a unit combusts any fuel.

Unit operating hour or *hour of unit operation* means an hour in which a unit combusts any fuel.

Useful power means, with regard to a cogeneration unit, electricity or mechanical energy made available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Useful thermal energy means, with regard to a cogeneration unit, thermal energy that is:

(1) Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;

(2) Used in a heating application (*e.g.*, space heating or domestic hot water heating); or

(3) Used in a space cooling application (*i.e.*, thermal energy used by an absorption chiller).

Utility power distribution system means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25385, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006; 72 FR 59206, Oct. 19, 2007]

EDITORIAL NOTES: 1. At 71 FR 25386, Apr. 28, 2006, § 96.202 was amended in the definition of ''CAIR NO_X Ozone Season source'', by revising the words ''includes one or more CAIR NO_X Ozone Season unit'' to read ''is subject to the CAIR NO_X Ozone Season Trading Program''; however, those words do not exist in this section and the amendment could not be incorporated.

2. At 71 FR 74794, Dec. 13, 2006, § 96.202 was amended in the definition of ''CAIR SO_2 allowance'' in paragraph (4), by revising the words ''(Program, provisions'' to read ''Program, provisions''; however, paragraph (4) does not exist in this section and the amendment could not be incorporated.

§ 96.203 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this subpart and subparts BBB through III are defined as follows:

Btu—British thermal unit
CO_2—carbon dioxide
H_2O—water
Hg—mercury
hr—hour
kW—kilowatt electrical
kWh—kilowatt hour
lb—pound
mmBtu—million Btu
MWe—megawatt electrical
MWh—megawatt hour
NO_X—nitrogen oxides
O_2—oxygen
ppm—parts per million
scfh—standard cubic feet per hour
SO_2—sulfur dioxide
yr—year

[71 FR 25387, Apr. 28, 2006]

§ 96.204 Applicability.

(a) Except as provided in paragraph (b) of this section:

(1) The following units in a State shall be CAIR SO_2 units, and any source that includes one or more such units shall be a CAIR SO_2 source, subject to the requirements of this subpart

and subparts BBB through HHH of this part: any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

(2) If a stationary boiler or stationary combustion turbine that, under paragraph (a)(1) of this section, is not a CAIR SO_2 unit begins to combust fossil fuel or to serve a generator with nameplate capacity of more than 25 MWe producing electricity for sale, the unit shall become a CAIR SO_2 unit as provided in paragraph (a)(1) of this section on the first date on which it both combusts fossil fuel and serves such generator.

(b) The units in a State that meet the requirements set forth in paragraph (b)(1)(i), (b)(2)(i), or (b)(2)(ii) of this section shall not be CAIR SO_2 units:

(1)(i) Any unit that is a CAIR SO_2 unit under paragraph (a)(1) or (2) of this section:

(A) Qualifying as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit; and

(B) Not serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

(ii) If a unit qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and meets the requirements of paragraphs (b)(1)(i) of this section for at least one calendar year, but subsequently no longer meets all such requirements, the unit shall become a CAIR SO_2 unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a cogeneration unit or January 1 after the first calendar year during which the unit no longer meets the requirements of paragraph (b)(1)(i)(B) of this section.

(2)(i) Any unit that is a CAIR SO_2 unit under paragraph (a)(1) or (2) of this section commencing operation before January 1, 1985:

(A) Qualifying as a solid waste incineration unit; and

(B) With an average annual fuel consumption of non-fossil fuel for 1985–1987 exceeding 80 percent (on a Btu basis) and an average annual fuel consumption of non-fossil fuel for any 3 consecutive calendar years after 1990 exceeding 80 percent (on a Btu basis).

(ii) Any unit that is a CAIR SO_2 unit under paragraph (a)(1) or (2) of this section commencing operation on or after January 1, 1985:

(A) Qualifying as a solid waste incineration unit; and

(B) With an average annual fuel consumption of non-fossil fuel for the first 3 calendar years of operation exceeding 80 percent (on a Btu basis) and an average annual fuel consumption of non-fossil fuel for any 3 consecutive calendar years after 1990 exceeding 80 percent (on a Btu basis).

(iii) If a unit qualifies as a solid waste incineration unit and meets the requirements of paragraph (b)(2)(i) or (ii) of this section for at least 3 consecutive calendar years, but subsequently no longer meets all such requirements, the unit shall become a CAIR SO_2 unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a solid waste incineration unit or January 1 after the first 3 consecutive calendar years after 1990 for which the unit has an average annual fuel consumption of fossil fuel of 20 percent or more.

[71 FR 25387, Apr. 28, 2006]

§ 96.205 Retired unit exemption.

(a)(1) Any CAIR SO_2 unit that is permanently retired and is not a CAIR SO_2 opt-in unit under subpart III of this part shall be exempt from the CAIR SO_2 Trading Program, except for the provisions of this section, § 96.202, § 96.203, § 96.204, § 96.206(c)(4) through (7), § 96.207, § 96.208, and subparts BBB, FFF, and GGG of this part.

(2) The exemption under paragraph (a)(1) of this section shall become effective the day on which the CAIR SO_2 unit is permanently retired. Within 30 days of the unit's permanent retirement, the CAIR designated representative shall submit a statement to the permitting authority otherwise responsible for administering any CAIR permit for the unit and shall submit a copy of the statement to the Administrator. The statement shall state, in a format prescribed by the permitting authority, that the unit was permanently retired on a specific date and will comply with the requirements of paragraph (b) of this section.

(3) After receipt of the statement under paragraph (a)(2) of this section, the permitting authority will amend any permit under subpart CCC of this part covering the source at which the unit is located to add the provisions and requirements of the exemption under paragraphs (a)(1) and (b) of this section.

(b) *Special provisions.* (1) A unit exempt under paragraph (a) of this section shall not emit any sulfur dioxide, starting on the date that the exemption takes effect.

(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under paragraph (a) of this section shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the permitting authority or the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(3) The owners and operators and, to the extent applicable, the CAIR designated representative of a unit exempt under paragraph (a) of this section shall comply with the requirements of the CAIR SO_2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(4) A unit exempt under paragraph (a) of this section and located at a source that is required, or but for this exemption would be required, to have a title V operating permit shall not resume operation unless the CAIR designated representative of the source submits a complete CAIR permit application under § 96.222 for the unit not less than 18 months (or such lesser time provided by the permitting authority) before the later of January 1, 2010 or the date on which the unit resumes operation.

(5) On the earlier of the following dates, a unit exempt under paragraph (a) of this section shall lose its exemption:

(i) The date on which the CAIR designated representative submits a CAIR permit application for the unit under paragraph (b)(4) of this section;

(ii) The date on which the CAIR designated representative is required under paragraph (b)(4) of this section to submit a CAIR permit application for the unit; or

(iii) The date on which the unit resumes operation, if the CAIR designated representative is not required to submit a CAIR permit application for the unit.

(6) For the purpose of applying monitoring, reporting, and recordkeeping requirements under subpart HHH of this part, a unit that loses its exemption under paragraph (a) of this section shall be treated as a unit that commences commercial operation on the first date on which the unit resumes operation.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25388, Apr. 28, 2006]

§ 96.206 Standard requirements.

(a) *Permit requirements.* (1) The CAIR designated representative of each CAIR SO_2 source required to have a title V operating permit and each CAIR SO_2 unit required to have a title V operating permit at the source shall:

(i) Submit to the permitting authority a complete CAIR permit application under § 96.222 in accordance with the deadlines specified in § 96.221; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review a CAIR permit application and issue or deny a CAIR permit.

(2) The owners and operators of each CAIR SO_2 source required to have a

title V operating permit and each CAIR SO_2 unit required to have a title V operating permit at the source shall have a CAIR permit issued by the permitting authority under subpart CCC of this part for the source and operate the source and the unit in compliance with such CAIR permit.

(3) Except as provided in subpart III of this part, the owners and operators of a CAIR SO_2 source that is not otherwise required to have a title V operating permit and each CAIR SO_2 unit that is not otherwise required to have a title V operating permit are not required to submit a CAIR permit application, and to have a CAIR permit, under subpart CCC of this part for such CAIR SO_2 source and such CAIR SO_2 unit.

(b) *Monitoring, reporting, and recordkeeping requirements.* (1) The owners and operators, and the CAIR designated representative, of each CAIR SO_2 source and each CAIR SO_2 unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of subpart HHH of this part.

(2) The emissions measurements recorded and reported in accordance with subpart HHH of this part shall be used to determine compliance by each CAIR SO_2 source with the CAIR SO_2 emissions limitation under paragraph (c) of this section.

(c) *Sulfur dioxide emission requirements.* (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR SO_2 source and each CAIR SO_2 unit at the source shall hold, in the source's compliance account, a tonnage equivalent in CAIR SO_2 allowances available for compliance deductions for the control period, as determined in accordance with § 96.254(a) and (b), not less than the tons of total sulfur dioxide emissions for the control period from all CAIR SO_2 units at the source, as determined in accordance with subpart HHH of this part.

(2) A CAIR SO_2 unit shall be subject to the requirements under paragraph (c)(1) of this section for the control period starting on the later of January 1, 2010 or the deadline for meeting the unit's monitor certification requirements under § 96.270(b)(1), (2), or (5) and for each control period thereafter.

(3) A CAIR SO_2 allowance shall not be deducted, for compliance with the requirements under paragraph (c)(1) of this section, for a control period in a calendar year before the year for which the CAIR SO_2 allowance was allocated.

(4) CAIR SO_2 allowances shall be held in, deducted from, or transferred into or among CAIR SO_2 Allowance Tracking System accounts in accordance with subparts FFF, GGG, and III of this part.

(5) A CAIR SO_2 allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO_2 Trading Program. No provision of the CAIR SO_2 Trading Program, the CAIR permit application, the CAIR permit, or an exemption under § 96.205 and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization.

(6) A CAIR SO_2 allowance does not constitute a property right.

(7) Upon recordation by the Administrator under subpart FFF, GGG, or III of this part, every allocation, transfer, or deduction of a CAIR SO_2 allowance to or from a CAIR SO_2 source's compliance account is incorporated automatically in any CAIR permit of the source.

(d) *Excess emissions requirements*— If a CAIR SO_2 source emits sulfur dioxide during any control period in excess of the CAIR SO_2 emissions limitation, then:

(1) The owners and operators of the source and each CAIR SO_2 unit at the source shall surrender the CAIR SO_2 allowances required for deduction under § 96.254(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart, the Clean Air Act, and applicable State law.

(e) *Recordkeeping and reporting requirements.* (1) Unless otherwise provided, the owners and operators of the CAIR SO_2 source and each CAIR SO_2 unit at the source shall keep on site at

the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the permitting authority or the Administrator.

(i) The certificate of representation under § 96.213 for the CAIR designated representative for the source and each CAIR SO_2 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under § 96.213 changing the CAIR designated representative.

(ii) All emissions monitoring information, in accordance with subpart HHH of this part, provided that to the extent that subpart HHH of this part provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR SO_2 Trading Program.

(iv) Copies of all documents used to complete a CAIR permit application and any other submission under the CAIR SO_2 Trading Program or to demonstrate compliance with the requirements of the CAIR SO_2 Trading Program.

(2) The CAIR designated representative of a CAIR SO_2 source and each CAIR SO_2 unit at the source shall submit the reports required under the CAIR SO_2 Trading Program, including those under subpart HHH of this part.

(f) *Liability*. (1) Each CAIR SO_2 source and each CAIR SO_2 unit shall meet the requirements of the CAIR SO_2 Trading Program.

(2) Any provision of the CAIR SO_2 Trading Program that applies to a CAIR SO_2 source or the CAIR designated representative of a CAIR SO_2 source shall also apply to the owners and operators of such source and of the CAIR SO_2 units at the source.

(3) Any provision of the CAIR SO_2 Trading Program that applies to a CAIR SO_2 unit or the CAIR designated representative of a CAIR SO_2 unit shall also apply to the owners and operators of such unit.

(g) *Effect on other authorities*. No provision of the CAIR SO_2 Trading Program, a CAIR permit application, a CAIR permit, or an exemption under § 96.205 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR SO_2 source or CAIR SO_2 unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25388, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.207 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the CAIR SO_2 Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the CAIR SO_2 Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the CAIR SO_2 Trading Program, falls on a weekend or a State or Federal holiday, the time period shall be extended to the next business day.

§ 96.208 Appeal procedures.

The appeal procedures for decisions of the Administrator under the CAIR SO_2 Trading Program are set forth in part 78 of this chapter.

Subpart BBB—CAIR Designated Representative for CAIR SO_2 Sources

SOURCE: 70 FR 25362, May 12, 2005, unless otherwise noted.

§ 96.210 Authorization and responsibilities of CAIR designated representative.

(a) Except as provided under § 96.211, each CAIR SO_2 source, including all CAIR SO_2 units at the source, shall have one and only one CAIR designated

representative, with regard to all matters under the CAIR SO_2 Trading Program concerning the source or any CAIR SO_2 unit at the source.

(b) The CAIR designated representative of the CAIR SO_2 source shall be selected by an agreement binding on the owners and operators of the source and all CAIR SO_2 units at the source and shall act in accordance with the certification statement in § 96.213(a)(4)(iv).

(c) Upon receipt by the Administrator of a complete certificate of representation under § 96.213, the CAIR designated representative of the source shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the CAIR SO_2 source represented and each CAIR SO_2 unit at the source in all matters pertaining to the CAIR SO_2 Trading Program, notwithstanding any agreement between the CAIR designated representative and such owners and operators. The owners and operators shall be bound by any decision or order issued to the CAIR designated representative by the permitting authority, the Administrator, or a court regarding the source or unit.

(d) No CAIR permit will be issued, no emissions data reports will be accepted, and no CAIR SO_2 Allowance Tracking System account will be established for a CAIR SO_2 unit at a source, until the Administrator has received a complete certificate of representation under § 96.213 for a CAIR designated representative of the source and the CAIR SO_2 units at the source.

(e)(1) Each submission under the CAIR SO_2 Trading Program shall be submitted, signed, and certified by the CAIR designated representative for each CAIR SO_2 source on behalf of which the submission is made. Each such submission shall include the following certification statement by the CAIR designated representative: ''I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) The permitting authority and the Administrator will accept or act on a submission made on behalf of owner or operators of a CAIR SO_2 source or a CAIR SO_2 unit only if the submission has been made, signed, and certified in accordance with paragraph (e)(1) of this section.

§ 96.211 Alternate CAIR designated representative.

(a) A certificate of representation under § 96.213 may designate one and only one alternate CAIR designated representative, who may act on behalf of the CAIR designated representative. The agreement by which the alternate CAIR designated representative is selected shall include a procedure for authorizing the alternate CAIR designated representative to act in lieu of the CAIR designated representative.

(b) Upon receipt by the Administrator of a complete certificate of representation under § 96.213, any representation, action, inaction, or submission by the alternate CAIR designated representative shall be deemed to be a representation, action, inaction, or submission by the CAIR designated representative.

(c) Except in this section and §§ 96.202, 96.210(a) and (d), 96.212, 96.213, 96.215, 96.251, and 96.282, whenever the term ''CAIR designated representative'' is used in subparts AAA through III of this part, the term shall be construed to include the CAIR designated representative or any alternate CAIR designated representative.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25388, Apr. 28, 2006]

§ 96.212 Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.

(a) *Changing CAIR designated representative.* The CAIR designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 96.213. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CAIR designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new CAIR designated representative and the owners and operators of the CAIR SO_2 source and the CAIR SO_2 units at the source.

(b) *Changing alternate CAIR designated representative.* The alternate CAIR designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 96.213. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate CAIR designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new alternate CAIR designated representative and the owners and operators of the CAIR SO_2 source and the CAIR SO_2 units at the source.

(c) *Changes in owners and operators.* (1) In the event an owner or operator of a CAIR SO_2 source or a CAIR SO_2 unit is not included in the list of owners and operators in the certificate of representation under § 96.213, such owner or operator shall be deemed to be subject to and bound by the certificate of representation, the representations, actions, inactions, and submissions of the CAIR designated representative and any alternate CAIR designated representative of the source or unit, and the decisions and orders of the permitting authority, the Administrator, or a court, as if the owner or operator were included in such list.

(2) Within 30 days following any change in the owners and operators of a CAIR SO_2 source or a CAIR SO_2 unit, including the addition of a new owner or operator, the CAIR designated representative or any alternate CAIR designated representative shall submit a revision to the certificate of representation under § 96.213 amending the list of owners and operators to include the change.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25388, Apr. 28, 2006]

§ 96.213 Certificate of representation.

(a) A complete certificate of representation for a CAIR designated representative or an alternate CAIR designated representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the CAIR SO_2 source, and each CAIR SO_2 unit at the source, for which the certificate of representation is submitted, including identification and nameplate capacity of each generator served by each such unit.

(2) The name, address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the CAIR designated representative and any alternate CAIR designated representative.

(3) A list of the owners and operators of the CAIR SO_2 source and of each CAIR SO_2 unit at the source.

(4) The following certification statements by the CAIR designated representative and any alternate CAIR designated representative—

(i) ''I certify that I was selected as the CAIR designated representative or alternate CAIR designated representative, as applicable, by an agreement binding on the owners and operators of the source and each CAIR SO_2 unit at the source.''

(ii) ''I certify that I have all the necessary authority to carry out my duties and responsibilities under the CAIR SO_2 Trading Program on behalf of the owners and operators of the source and of each CAIR SO_2 unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions.''

(iii) ''I certify that the owners and operators of the source and of each CAIR SO_2 unit at the source shall be bound by any order issued to me by the

Administrator, the permitting authority, or a court regarding the source or unit.''

(iv) ''Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, a CAIR SO_2 unit, or where a utility or industrial customer purchases power from a CAIR SO_2 unit under a life-of-the-unit, firm power contractual arrangement, I certify that: I have given a written notice of my selection as the 'CAIR designated representative' or 'alternate CAIR designated representative', as applicable, and of the agreement by which I was selected to each owner and operator of the source and of each CAIR SO_2 unit at the source; and CAIR SO_2 allowances and proceeds of transactions involving CAIR SO_2 allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, except that, if such multiple holders have expressly provided for a different distribution of CAIR SO_2 allowances by contract, CAIR SO_2 allowances and proceeds of transactions involving CAIR SO_2 allowances will be deemed to be held or distributed in accordance with the contract.''

(5) The signature of the CAIR designated representative and any alternate CAIR designated representative and the dates signed.

(b) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the certificate of representation shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25388, Apr. 28, 2006]

§ 96.214 Objections concerning CAIR designated representative.

(a) Once a complete certificate of representation under § 96.213 has been submitted and received, the permitting authority and the Administrator will rely on the certificate of representation unless and until a superseding complete certificate of representation under § 96.213 is received by the Administrator.

(b) Except as provided in § 96.212(a) or (b), no objection or other communication submitted to the permitting authority or the Administrator concerning the authorization, or any representation, action, inaction, or submission, of the CAIR designated representative shall affect any representation, action, inaction, or submission of the CAIR designated representative or the finality of any decision or order by the permitting authority or the Administrator under the CAIR SO_2 Trading Program.

(c) Neither the permitting authority nor the Administrator will adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any CAIR designated representative, including private legal disputes concerning the proceeds of CAIR SO_2 allowance transfers.

§ 96.215 Delegation by CAIR designated representative and alternate CAIR designated representative.

(a) A CAIR designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this part.

(b) An alternate CAIR designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this part.

(c) In order to delegate authority to make an electronic submission to the Administrator in accordance with paragraph (a) or (b) of this section, the CAIR designated representative or alternate CAIR designated representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(1) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such CAIR designated representative or alternate CAIR designated representative;

(2) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person ''referred to as an ''agent'');

(3) For each such natural person, a list of the type or types of electronic submissions under paragraph (a) or (b) of this section for which authority is delegated to him or her; and

(4) The following certification statements by such CAIR designated representative or alternate CAIR designated representative:

(i) ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a CAIR designated representative or alternate CAIR designated representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 96.215(d) shall be deemed to be an electronic submission by me.''

(ii) ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 96.215(d), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 96.215 is terminated.''.

(d) A notice of delegation submitted under paragraph (c) of this section shall be effective, with regard to the CAIR designated representative or alternate CAIR designated representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such CAIR designated representative or alternate CAIR designated representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(e) Any electronic submission covered by the certification in paragraph (c)(4)(i) of this section and made in accordance with a notice of delegation effective under paragraph (d) of this section shall be deemed to be an electronic submission by the CAIR designated representative or alternate CAIR designated representative submitting such notice of delegation.

[71 FR 25388, Apr. 28, 2006, as amended at 71 FR 74794, Dec. 13, 2006]

Subpart CCC—Permits

SOURCE: 70 FR 25362, May 12, 2005, unless otherwise noted.

§ 96.220 General CAIR SO_2 Trading Program permit requirements.

(a) For each CAIR SO_2 source required to have a title V operating permit or required, under subpart III of this part, to have a title V operating permit or other federally enforceable permit, such permit shall include a CAIR permit administered by the permitting authority for the title V operating permit or the federally enforceable permit as applicable. The CAIR portion of the title V permit or other federally enforceable permit as applicable shall be administered in accordance with the permitting authority's title V operating permits regulations promulgated under part 70 or 71 of this chapter or the permitting authority's regulations for other federally enforceable permits as applicable, except as provided otherwise by § 96.205, this subpart, and subpart III of this part.

(b) Each CAIR permit shall contain, with regard to the CAIR SO_2 source and the CAIR SO_2 units at the source covered by the CAIR permit, all applicable CAIR SO_2 Trading Program, CAIR NO_X Annual Trading Program, and CAIR NO_X Ozone Season Trading Program requirements and shall be a complete and separable portion of the title V operating permit or other federally enforceable permit under paragraph (a) of this section.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25388, Apr. 28, 2006]

§ 96.221 Submission of CAIR permit applications.

(a) *Duty to apply*. The CAIR designated representative of any CAIR SO_2 source required to have a title V operating permit shall submit to the permitting authority a complete CAIR permit application under § 96.222 for the source covering each CAIR SO_2 unit at

the source at least 18 months (or such lesser time provided by the permitting authority) before the later of January 1, 2010 or the date on which the CAIR SO_2 unit commences commercial operation, except as provided in § 96.283(a).

(b) *Duty to Reapply*. For a CAIR SO_2 source required to have a title V operating permit, the CAIR designated representative shall submit a complete CAIR permit application under § 96.222 for the source covering each CAIR SO_2 unit at the source to renew the CAIR permit in accordance with the permitting authority's title V operating permits regulations addressing permit renewal, except as provided in § 96.283(b).

[70 FR 25362, May 12, 2005, as amended at 71 FR 25388, Apr. 28, 2006]

§ 96.222 Information requirements for CAIR permit applications.

A complete CAIR permit application shall include the following elements concerning the CAIR SO_2 source for which the application is submitted, in a format prescribed by the permitting authority:

(a) Identification of the CAIR SO_2 source;

(b) Identification of each CAIR SO_2 unit at the CAIR SO_2 source; and

(c) The standard requirements under § 96.206.

§ 96.223 CAIR permit contents and term.

(a) Each CAIR permit will contain, in a format prescribed by the permitting authority, all elements required for a complete CAIR permit application under § 96.222.

(b) Each CAIR permit is deemed to incorporate automatically the definitions of terms under § 96.202 and, upon recordation by the Administrator under subpart FFF, GGG, or III of this part, every allocation, transfer, or deduction of a CAIR SO_2 allowance to or from the compliance account of the CAIR SO_2 source covered by the permit.

(c) The term of the CAIR permit will be set by the permitting authority, as necessary to facilitate coordination of the renewal of the CAIR permit with issuance, revision, or renewal of the CAIR SO_2 source's title V operating permit or other federally enforceable permit as applicable.

§ 96.224 CAIR permit revisions.

Except as provided in § 96.223(b), the permitting authority will revise the CAIR permit, as necessary, in accordance with the permitting authority's title V operating permits regulations or the permitting authority's regulations for other federally enforceable permits as applicable addressing permit revisions.

Subparts DDD–EEE [Reserved]

Subpart FFF—CAIR SO_2 Allowance Tracking System

SOURCE: 70 FR 25362, May 12, 2005, unless otherwise noted.

§ 96.250 [Reserved]

§ 96.251 Establishment of accounts.

(a) *Compliance accounts*. Except as provided in § 96.284(e), upon receipt of a complete certificate of representation under § 96.213, the Administrator will establish a compliance account for the CAIR SO_2 source for which the certificate of representation was submitted, unless the source already has a compliance account.

(b) *General accounts*—(1) *Application for general account*. (i) Any person may apply to open a general account for the purpose of holding and transferring CAIR SO_2 allowances. An application for a general account may designate one and only one CAIR authorized account representative and one and only one alternate CAIR authorized account representative who may act on behalf of the CAIR authorized account representative. The agreement by which the alternate CAIR authorized account representative is selected shall include a procedure for authorizing the alternate CAIR authorized account representative to act in lieu of the CAIR authorized account representative.

(ii) A complete application for a general account shall be submitted to the Administrator and shall include the following elements in a format prescribed by the Administrator:

(A) Name, mailing address, e-mail address (if any), telephone number, and

facsimile transmission number (if any) of the CAIR authorized account representative and any alternate CAIR authorized account representative;

(B) Organization name and type of organization, if applicable;

(C) A list of all persons subject to a binding agreement for the CAIR authorized account representative and any alternate CAIR authorized account representative to represent their ownership interest with respect to the CAIR SO_2 allowances held in the general account;

(D) The following certification statement by the CAIR authorized account representative and any alternate CAIR authorized account representative: ''I certify that I was selected as the CAIR authorized account representative or the alternate CAIR authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to CAIR SO_2 allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the CAIR SO_2 Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any order or decision issued to me by the Administrator or a court regarding the general account.''

(E) The signature of the CAIR authorized account representative and any alternate CAIR authorized account representative and the dates signed.

(iii) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the application for a general account shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) *Authorization of CAIR authorized account representative and alternate CAIR authorized account representative.* (i) Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section:

(A) The Administrator will establish a general account for the person or persons for whom the application is submitted.

(B) The CAIR authorized account representative and any alternate CAIR authorized account representative for the general account shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to CAIR SO_2 allowances held in the general account in all matters pertaining to the CAIR SO_2 Trading Program, notwithstanding any agreement between the CAIR authorized account representative or any alternate CAIR authorized account representative and such person. Any such person shall be bound by any order or decision issued to the CAIR authorized account representative or any alternate CAIR authorized account representative by the Administrator or a court regarding the general account.

(C) Any representation, action, inaction, or submission by any alternate CAIR authorized account representative shall be deemed to be a representation, action, inaction, or submission by the CAIR authorized account representative.

(ii) Each submission concerning the general account shall be submitted, signed, and certified by the CAIR authorized account representative or any alternate CAIR authorized account representative for the persons having an ownership interest with respect to CAIR SO_2 allowances held in the general account. Each such submission shall include the following certification statement by the CAIR authorized account representative or any alternate CAIR authorized account representative: ''I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the CAIR SO_2 allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I

certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(iii) The Administrator will accept or act on a submission concerning the general account only if the submission has been made, signed, and certified in accordance with paragraph (b)(2)(ii) of this section.

(3) *Changing CAIR authorized account representative and alternate CAIR authorized account representative; changes in persons with ownership interest.* (i) The CAIR authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CAIR authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new CAIR authorized account representative and the persons with an ownership interest with respect to the CAIR SO_2 allowances in the general account.

(ii) The alternate CAIR authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate CAIR authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate CAIR authorized account representative and the persons with an ownership interest with respect to the CAIR SO_2 allowances in the general account.

(iii)(A) In the event a person having an ownership interest with respect to CAIR SO_2 allowances in the general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representation, actions, inactions, and submissions of the CAIR authorized account representative and any alternate CAIR authorized account representative of the account, and the decisions and orders of the Administrator or a court, as if the person were included in such list.

(B) Within 30 days following any change in the persons having an ownership interest with respect to CAIR SO_2 allowances in the general account, including the addition of a new person, the CAIR authorized account representative or any alternate CAIR authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the CAIR SO_2 allowances in the general account to include the change.

(4) *Objections concerning CAIR authorized account representative and alternate CAIR authorized account representative.* (i) Once a complete application for a general account under paragraph (b)(1) of this section has been submitted and received, the Administrator will rely on the application unless and until a superseding complete application for a general account under paragraph (b)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (b)(3)(i) or (ii) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative for a general account shall affect any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative or the finality of any decision or order by the Administrator under the CAIR SO_2 Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative for a general account, including private legal disputes concerning the proceeds of CAIR SO_2 allowance transfers.

(5) *Delegation by CAIR authorized account representative and alternate CAIR authorized account representative.* (i) A CAIR authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under subparts FFF and GGG of this part.

(ii) An alternate CAIR authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under subparts FFF and GGG of this part.

(iii) In order to delegate authority to make an electronic submission to the Administrator in accordance with paragraph (b)(5)(i) or (ii) of this section, the CAIR authorized account representative or alternate CAIR authorized account representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(A) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such CAIR authorized account representative or alternate CAIR authorized account representative;

(B) The name, address, e-mail address, telephone number, and, facsimile transmission number (if any) of each such natural person (referred to as an ''agent'');

(C) For each such natural person, a list of the type or types of electronic submissions under paragraph (b)(5)(i) or (ii) of this section for which authority is delegated to him or her;

(D) The following certification statement by such CAIR authorized account representative or alternate CAIR authorized account representative: ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a CAIR authorized account representative or alternate CAIR authorized representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 96.251(b)(5)(iv) shall be deemed to be an electronic submission by me.''; and

(E) The following certification statement by such CAIR authorized account representative or alternate CAIR authorized account representative: ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 96.251 (b)(5)(iv), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 96.251 (b)(5) is terminated.''

(iv) A notice of delegation submitted under paragraph (b)(5)(iii) of this section shall be effective, with regard to the CAIR authorized account representative or alternate CAIR authorized account representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such CAIR authorized account representative or alternate CAIR authorized account representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(v) Any electronic submission covered by the certification in paragraph (b)(5)(iii)(D) of this section and made in accordance with a notice of delegation effective under paragraph (b)(5)(iv) of this section shall be deemed to be an electronic submission by the CAIR designated representative or alternate CAIR designated representative submitting such notice of delegation.

(c) *Account identification.* The Administrator will assign a unique identifying number to each account established under paragraph (a) or (b) of this section.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25388, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.252 Responsibilities of CAIR authorized account representative.

Following the establishment of a CAIR SO_2 Allowance Tracking System account, all submissions to the Administrator pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of CAIR SO_2 allowances in the account, shall be made only by the CAIR authorized account representative for the account.

§ 96.253 Recordation of CAIR SO_2 allowances.

(a)(1) After a compliance account is established under § 96.251(a) or § 73.31(a) or (b) of this chapter, the Administrator will record in the compliance account any CAIR SO_2 allowance allocated to any CAIR SO_2 unit at the source for each of the 30 years starting the later of 2010 or the year in which the compliance account is established and any CAIR SO_2 allowance allocated for each of the 30 years starting the later of 2010 or the year in which the compliance account is established and transferred to the source in accordance with subpart GGG of this part or subpart D of part 73 of this chapter.

(2) In 2011 and each year thereafter, after Administrator has completed all deductions under § 96.254(b), the Administrator will record in the compliance account any CAIR SO_2 allowance allocated to any CAIR SO_2 unit at the source for the new 30th year (*i.e.*, the year that is 30 years after the calendar year for which such deductions are or could be made) and any CAIR SO_2 allowance allocated for the new 30th year and transferred to the source in accordance with subpart GGG of this part or subpart D of part 73 of this chapter.

(b)(1) After a general account is established under § 96.251(b) or § 73.31(c) of this chapter, the Administrator will record in the general account any CAIR SO_2 allowance allocated for each of the 30 years starting the later of 2010 or the year in which the general account is established and transferred to the general account in accordance with subpart GGG of this part or subpart D of part 73 of this chapter.

(2) In 2011 and each year thereafter, after Administrator has completed all deductions under § 96.254(b), the Administrator will record in the general account any CAIR SO_2 allowance allocated for the new 30th year (*i.e.*, the year that is 30 years after the calendar year for which such deductions are or could be made) and transferred to the general account in accordance with subpart GGG of this part or subpart D of part 73 of this chapter.

(c) *Serial numbers for allocated CAIR SO_2 allowances.* When recording the allocation of CAIR SO_2 allowances issued by a permitting authority under § 96.288, the Administrator will assign each such CAIR SO_2 allowance a unique identification number that will include digits identifying the year of the control period for which the CAIR SO_2 allowance is allocated.

§ 96.254 Compliance with CAIR SO_2 emissions limitation.

(a) *Allowance transfer deadline.* The CAIR SO_2 allowances are available to be deducted for compliance with a source's CAIR SO_2 emissions limitation for a control period in a given calendar year only if the CAIR SO_2 allowances:

(1) Were allocated for the control period in the year or a prior year; and

(2) Are held in the compliance account as of the allowance transfer deadline for the control period or are transferred into the compliance account by a CAIR SO_2 allowance transfer correctly submitted for recordation under §§ 96.260 and 96.261 by the allowance transfer deadline for the control period.

(b) *Deductions for compliance.* Following the recordation, in accordance with § 96.261, of CAIR SO_2 allowance transfers submitted for recordation in a source's compliance account by the allowance transfer deadline for a control period, the Administrator will deduct from the compliance account CAIR SO_2 allowances available under paragraph (a) of this section in order to determine whether the source meets

the CAIR SO_2 emissions limitation for the control period as follows:

(1) For a CAIR SO_2 source subject to an Acid Rain emissions limitation, the Administrator will, in the following order:

(i) Deduct the amount of CAIR SO_2 allowances, available under paragraph (a) of this section and not issued by a permitting authority under § 96.288, that is required under §§ 73.35(b) and (c) of this part. If there are sufficient CAIR SO_2 allowances to complete this deduction, the deduction will be treated as satisfying the requirements of §§ 73.35(b) and (c) of this chapter.

(ii) Deduct the amount of CAIR SO_2 allowances, not issued by a permitting authority under § 96.288, that is required under §§ 73.35(d) and 77.5 of this part. If there are sufficient CAIR SO_2 allowances to complete this deduction, the deduction will be treated as satisfying the requirements of §§ 73.35(d) and 77.5 of this chapter.

(iii) Treating the CAIR SO_2 allowances deducted under paragraph (b)(1)(i) of this section as also being deducted under this paragraph (b)(1)(iii), deduct CAIR SO_2 allowances available under paragraph (a) of this section (including any issued by a permitting authority under § 96.288) in order to determine whether the source meets the CAIR SO_2 emissions limitation for the control period, as follows:

(A) Until the tonnage equivalent of the CAIR SO_2 allowances deducted equals, or exceeds in accordance with paragraphs (c)(1) and (2) of this section, the number of tons of total sulfur dioxide emissions, determined in accordance with subpart HHH of this part, from all CAIR SO_2 units at the source for the control period; or

(B) If there are insufficient CAIR SO_2 allowances to complete the deductions in paragraph (b)(1)(iii)(A) of this section, until no more CAIR SO_2 allowances available under paragraph (a) of this section (including any issued by a permitting authority under § 96.288) remain in the compliance account.

(2) For a CAIR SO_2 source not subject to an Acid Rain emissions limitation, the Administrator will deduct CAIR SO_2 allowances available under paragraph (a) of this section (including any issued by a permitting authority under § 96.288) in order to determine whether the source meets the CAIR SO_2 emissions limitation for the control period, as follows:

(i) Until the tonnage equivalent of the CAIR SO_2 allowances deducted equals, or exceeds in accordance with paragraphs (c)(1) and (2) of this section, the number of tons of total sulfur dioxide emissions, determined in accordance with subpart HHH of this part, from all CAIR SO_2 units at the source for the control period; or

(ii) If there are insufficient CAIR SO_2 allowances to complete the deductions in paragraph (b)(2)(i) of this section, until no more CAIR SO_2 allowances available under paragraph (a) of this section (including any issued by a permitting authority under § 96.288) remain in the compliance account.

(c)(1) *Identification of CAIR SO_2 allowances by serial number.* The CAIR authorized account representative for a source's compliance account may request that specific CAIR SO_2 allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period in accordance with paragraph (b) or (d) of this section. Such request shall be submitted to the Administrator by the allowance transfer deadline for the control period and include, in a format prescribed by the Administrator, the identification of the CAIR SO_2 source and the appropriate serial numbers.

(2) *First-in, first-out.* The Administrator will deduct CAIR SO_2 allowances under paragraph (b) or (d) of this section from the source's compliance account, in the absence of an identification or in the case of a partial identification of CAIR SO_2 allowances by serial number under paragraph (c)(1) of this section, on a first-in, first-out (FIFO) accounting basis in the following order:

(i) Any CAIR SO_2 allowances that were allocated to the units at the source for a control period before 2010, in the order of recordation;

(ii) Any CAIR SO_2 allowances that were allocated to any entity for a control period before 2010 and transferred and recorded in the compliance account pursuant to subpart GGG of this

part or subpart D of part 73 of this chapter, in the order of recordation;

(iii) Any CAIR SO_2 allowances that were allocated to the units at the source for a control period during 2010 through 2014, in the order of recordation;

(iv) Any CAIR SO_2 allowances that were allocated to any entity for a control period during 2010 through 2014 and transferred and recorded in the compliance account pursuant to subpart GGG of this part or subpart D of part 73 of this chapter, in the order of recordation;

(v) Any CAIR SO_2 allowances that were allocated to the units at the source for a control period in 2015 or later, in the order of recordation; and

(vi) Any CAIR SO_2 allowances that were allocated to any entity for a control period in 2015 or later and transferred and recorded in the compliance account pursuant to subpart GGG of this part or subpart D of part 73 of this chapter, in the order of recordation.

(d) *Deductions for excess emissions.* (1) After making the deductions for compliance under paragraph (b) of this section for a control period in a calendar year in which the CAIR SO_2 source has excess emissions, the Administrator will deduct from the source's compliance account the tonnage equivalent in CAIR SO_2 allowances, allocated for the control period in the immediately following calendar year (including any issued by a permitting authority under § 96.288), equal to, or exceeding in accordance with paragraphs (c)(1) and (2) of this section, 3 times the following amount: the number of tons of the source's excess emissions minus, if the source is subject to an Acid Rain emissions limitation, the amount of the CAIR SO_2 allowances required to be deducted under paragraph (b)(1)(ii) of this section.

(2) Any allowance deduction required under paragraph (d)(1) of this section shall not affect the liability of the owners and operators of the CAIR SO_2 source or the CAIR SO_2 units at the source for any fine, penalty, or assessment, or their obligation to comply with any other remedy, for the same violations, as ordered under the Clean Air Act or applicable State law.

(e) *Recordation of deductions.* The Administrator will record in the appropriate compliance account all deductions from such an account under paragraphs (b) and (d) of this section and subpart III.

(f) *Administrator's action on submissions.* (1) The Administrator may review and conduct independent audits concerning any submission under the CAIR SO_2 Trading Program and make appropriate adjustments of the information in the submissions.

(2) The Administrator may deduct CAIR SO_2 allowances from or transfer CAIR SO_2 allowances to a source's compliance account based on the information in the submissions, as adjusted under paragraph (f)(1) of this section, and record such deductions and transfers.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25389, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.255 Banking.

(a) CAIR SO_2 allowances may be banked for future use or transfer in a compliance account or a general account in accordance with paragraph (b) of this section.

(b) Any CAIR SO_2 allowance that is held in a compliance account or a general account will remain in such account unless and until the CAIR SO_2 allowance is deducted or transferred under § 96.254, § 96.256, or subpart GGG or III of this part.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25389, Apr. 28, 2006]

§ 96.256 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any CAIR SO_2 Allowance Tracking System account. Within 10 business days of making such correction, the Administrator will notify the CAIR authorized account representative for the account.

§ 96.257 Closing of general accounts.

(a) The CAIR authorized account representative of a general account may submit to the Administrator a request to close the account, which shall include a correctly submitted allowance transfer under §§ 96.260 and 96.261 for

any CAIR SO_2 allowances in the account to one or more other CAIR SO_2 Allowance Tracking System accounts.

(b) If a general account has no allowance transfers in or out of the account for a 12-month period or longer and does not contain any CAIR SO_2 allowances, the Administrator may notify the CAIR authorized account representative for the account that the account will be closed following 20 business days after the notice is sent. The account will be closed after the 20-day period unless, before the end of the 20-day period, the Administrator receives a correctly submitted transfer of CAIR SO_2 allowances into the account under §§ 96.260 and 96.261 or a statement submitted by the CAIR authorized account representative demonstrating to the satisfaction of the Administrator good cause as to why the account should not be closed.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25389, Apr. 28, 2006]

Subpart GGG—CAIR SO_2 Allowance Transfers

SOURCE: 70 FR 25362, May 12, 2005, unless otherwise noted.

§ 96.260 Submission of CAIR SO_2 allowance transfers.

(a) A CAIR authorized account representative seeking recordation of a CAIR SO_2 allowance transfer shall submit the transfer to the Administrator. To be considered correctly submitted, the CAIR SO_2 allowance transfer shall include the following elements, in a format specified by the Administrator:

(1) The account numbers of both the transferor and transferee accounts;

(2) The serial number of each CAIR SO_2 allowance that is in the transferor account and is to be transferred; and

(3) The name and signature of the CAIR authorized account representatives of the transferor and transferee accounts and the dates signed.

(b)(1) The CAIR authorized account representative for the transferee account can meet the requirements in paragraph (a)(3) of this section by submitting, in a format prescribed by the Administrator, a statement signed by the CAIR authorized account representative and identifying each account into which any transfer of allowances, submitted on or after the date on which the Administrator receives such statement, is authorized. Such authorization shall be binding on any CAIR authorized account representative for such account and shall apply to all transfers into the account that are submitted on or after such date of receipt, unless and until the Administrator receives a statement signed by the CAIR authorized account representative retracting the authorization for the account.

(2) The statement under paragraph (b)(1) of this section shall include the following: ''By this signature I authorize any transfer of allowances into each account listed herein, except that I do not waive any remedies under State or Federal law to obtain correction of any erroneous transfers into such accounts. This authorization shall be binding on any CAIR authorized account representative for such account unless and until a statement signed by the CAIR authorized account representative retracting this authorization for the account is received by the Administrator.''

§ 96.261 EPA recordation.

(a) Within 5 business days (except as necessary to perform a transfer in perpetuity of CAIR SO_2 allowances allocated to a CAIR SO_2 unit or as provided in paragraph (b) of this section) of receiving a CAIR SO_2 allowance transfer, the Administrator will record a CAIR SO_2 allowance transfer by moving each CAIR SO_2 allowance from the transferor account to the transferee account as specified by the request, provided that:

(1) The transfer is correctly submitted under § 96.260;

(2) The transferor account includes each CAIR SO_2 allowance identified by serial number in the transfer; and

(3) The transfer is in accordance with the limitation on transfer under § 74.42 of this chapter and § 74.47(c) of this chapter, as applicable.

(b) A CAIR SO_2 allowance transfer that is submitted for recordation after the allowance transfer deadline for a control period and that includes any CAIR SO_2 allowances allocated for any

control period before such allowance transfer deadline will not be recorded until after the Administrator completes the deductions under § 96.254 for the control period immediately before such allowance transfer deadline.

(c) Where a CAIR SO_2 allowance transfer submitted for recordation fails to meet the requirements of paragraph (a) of this section, the Administrator will not record such transfer.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25389, Apr. 28, 2006]

§ 96.262 Notification.

(a) *Notification of recordation.* Within 5 business days of recordation of a CAIR SO_2 allowance transfer under § 96.261, the Administrator will notify the CAIR authorized account representatives of both the transferor and transferee accounts.

(b) *Notification of non-recordation.* Within 10 business days of receipt of a CAIR SO_2 allowance transfer that fails to meet the requirements of § 96.261(a), the Administrator will notify the CAIR authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer, and

(2) The reasons for such non-recordation.

(c) Nothing in this section shall preclude the submission of a CAIR SO_2 allowance transfer for recordation following notification of non-recordation.

Subpart HHH—Monitoring and Reporting

SOURCE: 70 FR 25362, May 12, 2005, unless otherwise noted.

§ 96.270 General requirements.

The owners and operators, and to the extent applicable, the CAIR designated representative, of a CAIR SO_2 unit, shall comply with the monitoring, recordkeeping, and reporting requirements as provided in this subpart and in subparts F and G of part 75 of this chapter. For purposes of complying with such requirements, the definitions in § 96.202 and in § 72.2 of this chapter shall apply, and the terms ''affected unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') in part 75 of this chapter shall be deemed to refer to the terms ''CAIR SO_2 unit,'' ''CAIR designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') respectively, as defined in § 96.202. The owner or operator of a unit that is not a CAIR SO_2 unit but that is monitored under § 75.16(b)(2) of this chapter shall comply with the same monitoring, recordkeeping, and reporting requirements as a CAIR SO_2 unit.

(a) *Requirements for installation, certification, and data accounting.* The owner or operator of each CAIR SO_2 unit shall:

(1) Install all monitoring systems required under this subpart for monitoring SO_2 mass emissions and individual unit heat input (including all systems required to monitor SO_2 concentration, stack gas moisture content, stack gas flow rate, CO_2 or O_2 concentration, and fuel flow rate, as applicable, in accordance with §§ 75.11 and 75.16 of this chapter);

(2) Successfully complete all certification tests required under § 96.271 and meet all other requirements of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraph (a)(1) of this section; and

(3) Record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section.

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the following dates. The owner or operator shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the following dates.

(1) For the owner or operator of a CAIR SO_2 unit that commences commercial operation before July 1, 2008, by January 1, 2009.

(2) For the owner or operator of a CAIR SO_2 unit that commences commercial operation on or after July 1, 2008, by the later of the following dates:

(i) January 1, 2009; or

(ii) 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which the unit commences commercial operation.

(3) For the owner or operator of a CAIR SO_2 unit for which construction of a new stack or flue or installation of add-on SO_2 emission controls is completed after the applicable deadline under paragraph (b)(1), (2), (4), or (5) of this section, by 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which emissions first exit to the atmosphere through the new stack or flue or add-on SO_2 emissions controls.

(4) Notwithstanding the dates in paragraphs (b)(1) and (2) of this section, for the owner or operator of a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart III of this part, by the date specified in § 96.284(b).

(5) Notwithstanding the dates in paragraphs (b)(1) and (2) of this section, for the owner or operator of a CAIR SO_2 opt-in unit under subpart III of this part, by the date on which the CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program as provided in § 96.284(g).

(c) *Reporting data.* The owner or operator of a CAIR SO_2 unit that does not meet the applicable compliance date set forth in paragraph (b) of this section for any monitoring system under paragraph (a)(1) of this section shall, for each such monitoring system, determine, record, and report maximum potential (or, as appropriate, minimum potential) values for SO_2 concentration, stack gas flow rate, stack gas moisture content, fuel flow rate, and any other parameters required to determine SO_2 mass emissions and heat input in accordance with § 75.31(b)(2) or (c)(3) of this chapter or section 2.4 of appendix D to part 75 of this chapter, as applicable.

(d) *Prohibitions.* (1) No owner or operator of a CAIR SO_2 unit shall use any alternative monitoring system, alternative reference method, or any other alternative to any requirement of this subpart without having obtained prior written approval in accordance with § 96.275.

(2) No owner or operator of a CAIR SO_2 unit shall operate the unit so as to discharge, or allow to be discharged, SO_2 emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(3) No owner or operator of a CAIR SO_2 unit shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording SO_2 mass emissions discharged into the atmosphere or heat input, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(4) No owner or operator of a CAIR SO_2 unit shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by an exemption under § 96.205 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the permitting authority for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The CAIR designated representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with § 96.271(d)(3)(i).

(e) *Long-term cold storage.* The owner or operator of a CAIR SO_2 unit is subject to the applicable provisions of part 75 of this chapter concerning units in long-term cold storage.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25389, Apr. 28, 2006]

§ 96.271 Initial certification and recertification procedures.

(a) The owner or operator of a CAIR SO_2 unit shall be exempt from the initial certification requirements of this section for a monitoring system under § 96.270(a)(1) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with part 75 of this chapter; and

(2) The applicable quality-assurance and quality-control requirements of § 75.21 of this chapter and appendix B and appendix D to part 75 of this chapter are fully met for the certified monitoring system described in paragraph (a)(1) of this section.

(b) The recertification provisions of this section shall apply to a monitoring system under § 96.270(a)(1) exempt from initial certification requirements under paragraph (a) of this section.

(c) [Reserved]

(d) Except as provided in paragraph (a) of this section, the owner or operator of a CAIR SO_2 unit shall comply with the following initial certification and recertification procedures, for a continuous monitoring system (*i.e.*, a continuous emission monitoring system and an excepted monitoring system under appendix D to part 75 of this chapter) under § 96.270(a)(1). The owner or operator of a unit that qualifies to use the low mass emissions excepted monitoring methodology under § 75.19 of this chapter or that qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall comply with the procedures in paragraph (e) or (f) of this section respectively.

(1) *Requirements for initial certification.* The owner or operator shall ensure that each continuous monitoring system under § 96.270(a)(1) (including the automated data acquisition and handling system) successfully completes all of the initial certification testing required under § 75.20 of this chapter by the applicable deadline in § 96.270(b). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this subpart in a location where no such monitoring system was previously installed, initial certification in accordance with § 75.20 of this chapter is required.

(2) *Requirements for recertification.* Whenever the owner or operator makes a replacement, modification, or change in any certified continuous emission monitoring system under § 96.270(a)(1) that may significantly affect the ability of the system to accurately measure or record SO_2 mass emissions or heat input rate or to meet the quality-assurance and quality-control requirements of § 75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the monitoring system in accordance with § 75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify each continuous emission monitoring system whose accuracy is potentially affected by the change, in accordance with § 75.20(b) of this chapter. Examples of changes to a continuous emission monitoring system that require recertification include: replacement of the analyzer, complete replacement of an existing continuous emission monitoring system, or change in location or orientation of the sampling probe or site. Any fuel flowmeter system under § 96.270(a)(1) is subject to the recertification requirements in § 75.20(g)(6) of this chapter.

(3) *Approval process for initial certification and recertification.* Paragraphs (d)(3)(i) through (iv) of this section apply to both initial certification and recertification of a continuous monitoring system under § 96.270(a)(1). For recertifications, replace the words ''certification'' and ''initial certification'' with the word ''recertification'', replace the word ''certified'' with the word ''recertified,'' and follow the procedures in §§ 75.20(b)(5) and (g)(7) of this chapter in lieu of the procedures in paragraph (d)(3)(v) of this section.

(i) *Notification of certification.* The CAIR designated representative shall submit to the permitting authority, the appropriate EPA Regional Office, and the Administrator written notice of the dates of certification testing, in accordance with § 96.273.

(ii) *Certification application*. The CAIR designated representative shall submit to the permitting authority a certification application for each monitoring system. A complete certification application shall include the information specified in § 75.63 of this chapter.

(iii) *Provisional certification date*. The provisional certification date for a monitoring system shall be determined in accordance with § 75.20(a)(3) of this chapter. A provisionally certified monitoring system may be used under the CAIR SO_2 Trading Program for a period not to exceed 120 days after receipt by the permitting authority of the complete certification application for the monitoring system under paragraph (d)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the permitting authority does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of the date of receipt of the complete certification application by the permitting authority.

(iv) *Certification application approval process*. The permitting authority will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under paragraph (d)(3)(ii) of this section. In the event the permitting authority does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the CAIR SO_2 Trading Program.

(A) *Approval notice*. If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of part 75 of this chapter, then the permitting authority will issue a written notice of approval of the certification application within 120 days of receipt.

(B) *Incomplete application notice*. If the certification application is not complete, then the permitting authority will issue a written notice of incompleteness that sets a reasonable date by which the CAIR designated representative must submit the additional information required to complete the certification application. If the CAIR designated representative does not comply with the notice of incompleteness by the specified date, then the permitting authority may issue a notice of disapproval under paragraph (d)(3)(iv)(C) of this section. The 120-day review period shall not begin before receipt of a complete certification application.

(C) *Disapproval notice*. If the certification application shows that any monitoring system does not meet the performance requirements of part 75 of this chapter or if the certification application is incomplete and the requirement for disapproval under paragraph (d)(3)(iv)(B) of this section is met, then the permitting authority will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the permitting authority and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification (as defined under § 75.20(a)(3) of this chapter). The owner or operator shall follow the procedures for loss of certification in paragraph (d)(3)(v) of this section for each monitoring system that is disapproved for initial certification.

(D) *Audit decertification*. The permitting authority or, for a CAIR SO_2 opt-in unit or a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart III of this part, the Administrator may issue a notice of disapproval of the certification status of a monitor in accordance with § 96.272(b).

(v) *Procedures for loss of certification*. If the permitting authority or the Administrator issues a notice of disapproval of a certification application under paragraph (d)(3)(iv)(C) of this

section or a notice of disapproval of certification status under paragraph (d)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each disapproved monitoring system, for each hour of unit operation during the period of invalid data specified under § 75.20(a)(4)(iii), § 75.20(g)(7), or § 75.21(e) of this chapter and continuing until the applicable date and hour specified under § 75.20(a)(5)(i) or (g)(7) of this chapter:

(*1*) For a disapproved SO_2 pollutant concentration monitor and disapproved flow monitor, respectively, the maximum potential concentration of SO_2 and the maximum potential flow rate, as defined in sections 2.1.1.1 and 2.1.4.1 of appendix A to part 75 of this chapter.

(*2*) For a disapproved moisture monitoring system and disapproved diluent gas monitoring system, respectively, the minimum potential moisture percentage and either the maximum potential CO_2 concentration or the minimum potential O_2 concentration (as applicable), as defined in sections 2.1.5, 2.1.3.1, and 2.1.3.2 of appendix A to part 75 of this chapter.

(*3*) For a disapproved fuel flowmeter system, the maximum potential fuel flow rate, as defined in section 2.4.2.1 of appendix D to part 75 of this chapter.

(B) The CAIR designated representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (d)(3)(i) and (ii) of this section.

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the permitting authority's or the Administrator's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(e) *Initial certification and recertification procedures for units using the low mass emission excepted methodology under § 75.19 of this chapter*. The owner or operator of a unit qualified to use the low mass emissions (LME) excepted methodology under § 75.19 of this chapter shall meet the applicable certification and recertification requirements in §§ 75.19(a)(2) and 75.20(h) of this chapter. If the owner or operator of such a unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall also meet the certification and recertification requirements in § 75.20(g) of this chapter.

(f) *Certification/recertification procedures for alternative monitoring systems*. The CAIR designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator and, if applicable, the permitting authority under subpart E of part 75 of this chapter shall comply with the applicable notification and application procedures of § 75.20(f) of this chapter.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25390, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.272 Out of control periods.

(a) Whenever any monitoring system fails to meet the quality-assurance and quality-control requirements or data validation requirements of part 75 of this chapter, data shall be substituted using the applicable missing data procedures in subpart D of or appendix D to part 75 of this chapter.

(b) *Audit decertification*. Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under § 96.271 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the permitting authority or, for a CAIR SO_2 opt-in unit or a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart III of this part, the Administrator will issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the permitting authority or the Administrator. By issuing the notice of disapproval, the permitting authority or

the Administrator revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the applicable initial certification or recertification procedures in § 96.271 for each disapproved monitoring system.

§ 96.273 Notifications.

The CAIR designated representative for a CAIR SO_2 unit shall submit written notice to the permitting authority and the Administrator in accordance with § 75.61 of this chapter.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25390, Apr. 28, 2006]

§ 96.274 Recordkeeping and reporting.

(a) *General provisions*. The CAIR designated representative shall comply with all recordkeeping and reporting requirements in this section, the applicable recordkeeping and reporting requirements in subparts F and G of part 75 of this chapter, and the requirements of § 96.210(e)(1).

(b) *Monitoring plans*. The owner or operator of a CAIR SO_2 unit shall comply with requirements of § 75.62 of this chapter and, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart III of this part, §§ 96.283 and 96.284(a).

(c) *Certification applications*. The CAIR designated representative shall submit an application to the permitting authority within 45 days after completing all initial certification or recertification tests required under § 96.271, including the information required under § 75.63 of this chapter.

(d) *Quarterly reports*. The CAIR designated representative shall submit quarterly reports, as follows:

(1) The CAIR designated representative shall report the SO_2 mass emissions data and heat input data for the CAIR SO_2 unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(i) For a unit that commences commercial operation before July 1, 2008, the calendar quarter covering January 1, 2009 through March 31, 2009;

(ii) For a unit that commences commercial operation on or after July 1, 2008, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 96.270(b), unless that quarter is the third or fourth quarter of 2008, in which case reporting shall commence in the quarter covering January 1, 2009 through March 31, 2009;

(iii) Notwithstanding paragraphs (d)(1)(i) and (ii) of this section, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart III of this part, the calendar quarter corresponding to the date specified in § 96.284(b); and

(iv) Notwithstanding paragraphs (d)(1)(i) and (ii) of this section, for a CAIR SO_2 opt-in unit under subpart III of this part, the calendar quarter corresponding to the date on which the CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program as provided in § 96.284(g).

(2) The CAIR designated representative shall submit each quarterly report to the Administrator within 30 days following the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in § 75.64 of this chapter.

(3) For CAIR SO_2 units that are also subject to an Acid Rain emissions limitation or the CAIR NO_X Annual Trading Program CAIR NO_X Ozone Season Trading Program, or Hg Budget Trading Program, quarterly reports shall include the applicable data and information required by subparts F through I of part 75 of this chapter as applicable, in addition to the SO_2 mass emission data, heat input data, and other information required by this subpart.

(e) *Compliance certification*. The CAIR designated representative shall submit to the Administrator a compliance certification (in a format prescribed by the Administrator) in support of each

quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(1) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications; and

(2) For a unit with add-on SO_2 emission controls and for all hours where SO_2 data are substituted in accordance with § 75.34(a)(1) of this chapter, the add-on emission controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B to part 75 of this chapter and the substitute data values do not systematically underestimate SO_2 emissions.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25390, Apr. 28, 2006]

§ 96.275 Petitions.

(a) The CAIR designated representative of a CAIR SO_2 unit that is subject to an Acid Rain emissions limitation may submit a petition under § 75.66 of this chapter to the Administrator requesting approval to apply an alternative to any requirement of this subpart. Application of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that the petition is approved in writing by the Administrator, in consultation with the permitting authority.

(b) The CAIR designated representative of a CAIR SO_2 unit that is not subject to an Acid Rain emissions limitation may submit a petition under § 75.66 of this chapter to the permitting authority and the Administrator requesting approval to apply an alternative to any requirement of this subpart. Application of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that the petition is approved in writing by both the permitting authority and the Administrator.

Subpart III—CAIR SO_2 Opt-in Units

SOURCE: 70 FR 25362, May 12, 2005, unless otherwise noted.

§ 96.280 Applicability.

A CAIR SO_2 opt-in unit must be a unit that:

(a) Is located in the State;

(b) Is not a CAIR SO_2 unit under § 96.204 and is not covered by a retired unit exemption under § 96.205 that is in effect;

(c) Is not covered by a retired unit exemption under § 72.8 of this chapter that is in effect and is not an opt-in source under part 74 of this chapter;

(d) Has or is required or qualified to have a title V operating permit or other federally enforceable permit; and

(e) Vents all of its emissions to a stack and can meet the monitoring, recordkeeping, and reporting requirements of subpart HHH of this part.

§ 96.281 General.

(a) Except as otherwise provided in §§ 96.201 through 96.204, §§ 96.206 through 96.208, and subparts BBB and CCC and subparts FFF through HHH of this part, a CAIR SO_2 opt-in unit shall be treated as a CAIR SO_2 unit for purposes of applying such sections and subparts of this part.

(b) Solely for purposes of applying, as provided in this subpart, the requirements of subpart HHH of this part to a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under this subpart, such unit shall be treated as a CAIR SO_2 unit before issuance of a CAIR opt-in permit for such unit.

§ 96.282 CAIR designated representative.

Any CAIR SO_2 opt-in unit, and any unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under this subpart, located at the same source as one or more CAIR SO_2 units shall have the same CAIR designated representative and alternate CAIR designated representative as such CAIR SO_2 units.

§ 96.283 Applying for CAIR opt-in permit.

(a) *Applying for initial CAIR opt-in permit.* The CAIR designated representative of a unit meeting the requirements for a CAIR SO_2 opt-in unit in § 96.280 may apply for an initial CAIR opt-in permit at any time, except as provided under § 96.286(f) and (g), and, in order to apply, must submit the following:

(1) A complete CAIR permit application under § 96.222;

(2) A certification, in a format specified by the permitting authority, that the unit:

(i) Is not a CAIR SO_2 unit under § 96.204 and is not covered by a retired unit exemption under § 96.205 that is in effect;

(ii) Is not covered by a retired unit exemption under § 72.8 of this chapter that is in effect;

(iii) Is not and, so long as the unit is a CAIR SO_2 opt-in unit, will not become, an opt-in source under part 74 of this chapter;

(iv) Vents all of its emissions to a stack; and

(v) Has documented heat input for more than 876 hours during the 6 months immediately preceding submission of the CAIR permit application under § 96.222;

(3) A monitoring plan in accordance with subpart HHH of this part;

(4) A complete certificate of representation under § 96.213 consistent with § 96.282, if no CAIR designated representative has been previously designated for the source that includes the unit; and

(5) A statement, in a format specified by the permitting authority, whether the CAIR designated representative requests that the unit be allocated CAIR SO_2 allowances under § 96.288(b) or § 96.288(c) (subject to the conditions in §§ 96.284(h) and 96.286(g)). If allocation under § 96.288(c) is requested, this statement shall include a statement that the owners and operators of the unit intend to repower the unit before January 1, 2015 and that they will provide, upon request, documentation demonstrating such intent.

(b) *Duty to reapply.* (1) The CAIR designated representative of a CAIR SO_2 opt-in unit shall submit a complete CAIR permit application under § 96.222 to renew the CAIR opt-in unit permit in accordance with the permitting authority's regulations for title V operating permits, or the permitting authority's regulations for other federally enforceable permits if applicable, addressing permit renewal.

(2) Unless the permitting authority issues a notification of acceptance of withdrawal of the CAIR SO_2 opt-in unit from the CAIR SO_2 Trading Program in accordance with § 96.286 or the unit becomes a CAIR SO_2 unit under § 96.204, the CAIR SO_2 opt-in unit shall remain subject to the requirements for a CAIR SO_2 opt-in unit, even if the CAIR designated representative for the CAIR SO_2 opt-in unit fails to submit a CAIR permit application that is required for renewal of the CAIR opt-in permit under paragraph (b)(1) of this section.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25390, Apr. 28, 2006]

§ 96.284 Opt-in process.

The permitting authority will issue or deny a CAIR opt-in permit for a unit for which an initial application for a CAIR opt-in permit under § 96.283 is submitted in accordance with the following:

(a) *Interim review of monitoring plan.* The permitting authority and the Administrator will determine, on an interim basis, the sufficiency of the monitoring plan accompanying the initial application for a CAIR opt-in permit under § 96.283. A monitoring plan is sufficient, for purposes of interim review, if the plan appears to contain information demonstrating that the SO_2 emissions rate and heat input of the unit and all other applicable parameters are monitored and reported in accordance with subpart HHH of this part. A determination of sufficiency shall not be construed as acceptance or approval of the monitoring plan.

(b) *Monitoring and reporting.* (1)(i) If the permitting authority and the Administrator determine that the monitoring plan is sufficient under paragraph (a) of this section, the owner or operator shall monitor and report the SO_2 emissions rate and the heat input of the unit and all other applicable parameters, in accordance with subpart HHH of this part, starting on the date

of certification of the appropriate monitoring systems under subpart HHH of this part and continuing until a CAIR opt-in permit is denied under § 96.284(f) or, if a CAIR opt-in permit is issued, the date and time when the unit is withdrawn from the CAIR SO_2 Trading Program in accordance with § 96.286.

(ii) The monitoring and reporting under paragraph (b)(1)(i) of this section shall include the entire control period immediately before the date on which the unit enters the CAIR SO_2 Trading Program under § 96.284(g), during which period monitoring system availability must not be less than 90 percent under subpart HHH of this part and the unit must be in full compliance with any applicable State or Federal emissions or emissions-related requirements.

(2) To the extent the SO_2 emissions rate and the heat input of the unit are monitored and reported in accordance with subpart HHH of this part for one or more control periods, in addition to the control period under paragraph (b)(1)(ii) of this section, during which control periods monitoring system availability is not less than 90 percent under subpart HHH of this part and the unit is in full compliance with any applicable State or Federal emissions or emissions-related requirements and which control periods begin not more than 3 years before the unit enters the CAIR SO_2 Trading Program under § 96.284(g), such information shall be used as provided in paragraphs (c) and (d) of this section.

(c) *Baseline heat input*. The unit's baseline heat input shall equal:

(1) If the unit's SO_2 emissions rate and heat input are monitored and reported for only one control period, in accordance with paragraph (b)(1) of this section, the unit's total heat input (in mmBtu) for the control period; or

(2) If the unit's SO_2 emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, the average of the amounts of the unit's total heat input (in mmBtu) for the control periods under paragraphs (b)(1)(ii) and (2) of this section and the control periods under paragraph (b)(2) of this section.

(d) *Baseline SO_2* emission rate. The unit's baseline SO_2 emission rate shall equal:

(1) If the unit's SO_2 emissions rate and heat input are monitored and reported for only one control period, in accordance with paragraph (b)(1) of this section, the unit's SO_2 emissions rate (in lb/mmBtu) for the control period;

(2) If the unit's SO_2 emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, and the unit does not have add-on SO_2 emission controls during any such control periods, the average of the amounts of the unit's SO_2 emissions rate (in lb/mmBtu) for the control periods under paragraphs (b)(1)(ii) and (2) of this section; or

(3) If the unit's SO_2 emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, and the unit has add-on SO_2 emission controls during any such control periods, the average of the amounts of the unit's SO_2 emissions rate (in lb/mmBtu) for such control periods during which the unit has add-on SO_2 emission controls.

(e) *Issuance of CAIR opt-in permit*. After calculating the baseline heat input and the baseline SO_2 emissions rate for the unit under paragraphs (c) and (d) of this section and if the permitting authority determines that the CAIR designated representative shows that the unit meets the requirements for a CAIR SO_2 opt-in unit in § 96.280 and meets the elements certified in § 96.283(a)(2), the permitting authority will issue a CAIR opt-in permit. The permitting authority will provide a copy of the CAIR opt-in permit to the Administrator, who will then establish a compliance account for the source that includes the CAIR SO_2 opt-in unit unless the source already has a compliance account.

(f) *Issuance of denial of CAIR opt-in permit*. Notwithstanding paragraphs (a) through (e) of this section, if at any time before issuance of a CAIR opt-in permit for the unit, the permitting authority determines that the CAIR designated representative fails to show

that the unit meets the requirements for a CAIR SO_2 opt-in unit in § 96.280 or meets the elements certified in § 96.283(a)(2), the permitting authority will issue a denial of a CAIR opt-in permit for the unit.

(g) *Date of entry into CAIR SO_2 Trading Program.* A unit for which an initial CAIR opt-in permit is issued by the permitting authority shall become a CAIR SO_2 opt-in unit, and a CAIR SO_2 unit, as of the later of January 1, 2010 or January 1 of the first control period during which such CAIR opt-in permit is issued.

(h) *Repowered CAIR SO_2 opt-in unit.* (1) If CAIR designated representative requests, and the permitting authority issues a CAIR opt-in permit providing for, allocation to a CAIR SO_2 opt-in unit of CAIR SO_2 allowances under § 96.288(c) and such unit is repowered after its date of entry into the CAIR SO_2 Trading Program under paragraph (g) of this section, the repowered unit shall be treated as a CAIR SO_2 opt-in unit replacing the original CAIR SO_2 opt-in unit, as of the date of start-up of the repowered unit's combustion chamber.

(2) Notwithstanding paragraphs (c) and (d) of this section, as of the date of start-up under paragraph (h)(1) of this section, the repowered unit shall be deemed to have the same date of commencement of operation, date of commencement of commercial operation, baseline heat input, and baseline SO_2 emission rate as the original CAIR SO_2 opt-in unit, and the original CAIR SO_2 opt-in unit shall no longer be treated as a CAIR SO_2 opt-in unit or a CAIR SO_2 unit.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25390, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.285 CAIR opt-in permit contents.

(a) Each CAIR opt-in permit will contain:

(1) All elements required for a complete CAIR permit application under § 96.222;

(2) The certification in § 96.283(a)(2);

(3) The unit's baseline heat input under § 96.284(c);

(4) The unit's baseline SO_2 emission rate under § 96.284(d);

(5) A statement whether the unit is to be allocated CAIR SO_2 allowances § 96.288(b) or § 96.288(c) (subject to the conditions in §§ 96.284(h) and 96.286(g));

(6) A statement that the unit may withdraw from the CAIR SO_2 Trading Program only in accordance with § 96.286; and

(7) A statement that the unit is subject to, and the owners and operators of the unit must comply with, the requirements of § 96.287.

(b) Each CAIR opt-in permit is deemed to incorporate automatically the definitions of terms under § 96.202 and, upon recordation by the Administrator under subpart FFF or GGG of this part or this subpart, every allocation, transfer, or deduction of CAIR SO_2 allowances to or from the compliance account of the source that includes a CAIR SO_2 opt-in unit covered by the CAIR opt-in permit.

(c) The CAIR opt-in permit shall be included, in a format specified by the permitting authority, in the CAIR permit for the source where the CAIR SO_2 opt-in unit is located and in a title V operating permit or other federally enforceable permit for the source.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25390, Apr. 28, 2006]

§ 96.286 Withdrawal from CAIR SO_2 Trading Program.

Except as provided under paragraph (g) of this section, a CAIR SO_2 opt-in unit may withdraw from the CAIR SO_2 Trading Program, but only if the permitting authority issues a notification to the CAIR designated representative of the CAIR SO_2 opt-in unit of the acceptance of the withdrawal of the CAIR SO_2 opt-in unit in accordance with paragraph (d) of this section.

(a) *Requesting withdrawal.* In order to withdraw a CAIR SO_2 opt-in unit from the CAIR SO_2 Trading Program, the CAIR designated representative of the CAIR SO_2 opt-in unit shall submit to the permitting authority a request to withdraw effective as of midnight of December 31 of a specified calendar year, which date must be at least 4 years after December 31 of the year of entry into the CAIR SO_2 Trading Program under § 96.284(g). The request must be submitted no later than 90

days before the requested effective date of withdrawal.

(b) *Conditions for withdrawal.* Before a CAIR SO_2 opt-in unit covered by a request under paragraph (a) of this section may withdraw from the CAIR SO_2 Trading Program and the CAIR opt-in permit may be terminated under paragraph (e) of this section, the following conditions must be met:

(1) For the control period ending on the date on which the withdrawal is to be effective, the source that includes the CAIR SO_2 opt-in unit must meet the requirement to hold CAIR SO_2 allowances under § 96.206(c) and cannot have any excess emissions.

(2) After the requirement for withdrawal under paragraph (b)(1) of this section is met, the Administrator will deduct from the compliance account of the source that includes the CAIR SO_2 opt-in unit CAIR SO_2 allowances equal in amount to and allocated for the same or a prior control period as any CAIR SO_2 allowances allocated to the CAIR SO_2 opt-in unit under § 96.288 for any control period for which the withdrawal is to be effective. If there are no remaining CAIR SO_2 units at the source, the Administrator will close the compliance account, and the owners and operators of the CAIR SO_2 opt-in unit may submit a CAIR SO_2 allowance transfer for any remaining CAIR SO_2 allowances to another CAIR SO_2 Allowance Tracking System in accordance with subpart GGG of this part.

(c) *Notification.* (1) After the requirements for withdrawal under paragraphs (a) and (b) of this section are met (including deduction of the full amount of CAIR SO_2 allowances required), the permitting authority will issue a notification to the CAIR designated representative of the CAIR SO_2 opt-in unit of the acceptance of the withdrawal of the CAIR SO_2 opt-in unit as of midnight on December 31 of the calendar year for which the withdrawal was requested.

(2) If the requirements for withdrawal under paragraphs (a) and (b) of this section are not met, the permitting authority will issue a notification to the CAIR designated representative of the CAIR SO_2 opt-in unit that the CAIR SO_2 opt-in unit's request to withdraw is denied. Such CAIR SO_2 opt-in unit shall continue to be a CAIR SO_2 opt-in unit.

(d) *Permit amendment.* After the permitting authority issues a notification under paragraph (c)(1) of this section that the requirements for withdrawal have been met, the permitting authority will revise the CAIR permit covering the CAIR SO_2 opt-in unit to terminate the CAIR opt-in permit for such unit as of the effective date specified under paragraph (c)(1) of this section. The unit shall continue to be a CAIR SO_2 opt-in unit until the effective date of the termination and shall comply with all requirements under the CAIR SO_2 Trading Program concerning any control periods for which the unit is a CAIR SO_2 opt-in unit, even if such requirements arise or must be complied with after the withdrawal takes effect.

(e) *Reapplication upon failure to meet conditions of withdrawal.* If the permitting authority denies the CAIR SO_2 opt-in unit's request to withdraw, the CAIR designated representative may submit another request to withdraw in accordance with paragraphs (a) and (b) of this section.

(f) *Ability to reapply to the CAIR SO_2 Trading Program.* Once a CAIR SO_2 opt-in unit withdraws from the CAIR SO_2 Trading Program and its CAIR opt-in permit is terminated under this section, the CAIR designated representative may not submit another application for a CAIR opt-in permit under § 96.283 for such CAIR SO_2 opt-in unit before the date that is 4 years after the date on which the withdrawal became effective. Such new application for a CAIR opt-in permit will be treated as an initial application for a CAIR opt-in permit under § 96.284.

(g) *Inability to withdraw.* Notwithstanding paragraphs (a) through (f) of this section, a CAIR SO_2 opt-in unit shall not be eligible to withdraw from the CAIR SO_2 Trading Program if the CAIR designated representative of the CAIR SO_2 opt-in unit requests, and the permitting authority issues a CAIR opt-in permit providing for, allocation to the CAIR SO_2 opt-in unit of CAIR SO_2 allowances under § 96.288(c).

[70 FR 25362, May 12, 2005, as amended at 71 FR 25390, Apr. 28, 2006]

§ 96.287 Change in regulatory status.

(a) *Notification.* If a CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 96.204, then the CAIR designated representative shall notify in writing the permitting authority and the Administrator of such change in the CAIR SO_2 opt-in unit's regulatory status, within 30 days of such change.

(b) *Permitting authority's and Administrator's actions.* (1) If a CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 96.204, the permitting authority will revise the CAIR SO_2 opt-in unit's CAIR opt-in permit to meet the requirements of a CAIR permit under § 96.223, and remove the CAIR opt-in permit provisions, as of the date on which the CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 96.204.

(2)(i) The Administrator will deduct from the compliance account of the source that includes a CAIR SO_2 opt-in unit that becomes a CAIR SO_2 unit under § 96.204, CAIR SO_2 allowances equal in amount to and allocated for the same or a prior control period as:

(A) Any CAIR SO_2 allowances allocated to the CAIR SO_2 opt-in unit under § 96.288 for any control period after the date on which the CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 96.204; and

(B) If the date on which the CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 96.204 is not December 31, the CAIR SO_2 allowances allocated to the CAIR SO_2 opt-in unit under § 96.288 for the control period that includes the date on which the CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 96.204, multiplied by the ratio of the number of days, in the control period, starting with the date on which the CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 96.204 divided by the total number of days in the control period and rounded to the nearest whole allowance as appropriate.

(ii) The CAIR designated representative shall ensure that the compliance account of the source that includes the CAIR SO_2 opt-in unit that becomes a CAIR SO_2 unit under § 96.204 contains the CAIR SO_2 allowances necessary for completion of the deduction under paragraph (b)(2)(i) of this section.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25390, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.288 CAIR SO_2 allowance allocations to CAIR SO_2 opt-in units.

(a) *Timing requirements.* (1) When the CAIR opt-in permit is issued under § 96.284(e), the permitting authority will allocate CAIR SO_2 allowances to the CAIR SO_2 opt-in unit, and submit to the Administrator the allocation for the control period in which a CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program under § 96.284(g), in accordance with paragraph (b) or (c) of this section.

(2) By no later than October 31 of the control period after the control period in which a CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program under § 96.284(g) and October 31 of each year thereafter, the permitting authority will allocate CAIR SO_2 allowances to the CAIR SO_2 opt-in unit, and submit to the Administrator the allocation for the control period that includes such submission deadline and in which the unit is a CAIR SO_2 opt-in unit, in accordance with paragraph (b) or (c) of this section.

(b) *Calculation of allocation.* For each control period for which a CAIR SO_2 opt-in unit is to be allocated CAIR SO_2 allowances, the permitting authority will allocate in accordance with the following procedures:

(1) The heat input (in mmBtu) used for calculating the CAIR SO_2 allowance allocation will be the lesser of:

(i) The CAIR SO_2 opt-in unit's baseline heat input determined under § 96.284(c); or

(ii) The CAIR SO_2 opt-in unit's heat input, as determined in accordance with subpart HHH of this part, for the immediately prior control period, except when the allocation is being calculated for the control period in which the CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program under § 96.284(g).

(2) The SO_2 emission rate (in lb/mmBtu) used for calculating CAIR SO_2 allowance allocations will be the lesser of:

(i) The CAIR SO_2 opt-in unit's baseline SO_2 emissions rate (in lb/mmBtu) determined under § 96.284(d) and multiplied by 70 percent; or

(ii) The most stringent State or Federal SO_2 emissions limitation applicable to the CAIR SO_2 opt-in unit at any time during the control period for which CAIR SO_2 allowances are to be allocated.

(3) The permitting authority will allocate CAIR SO_2 allowances to the CAIR SO_2 opt-in unit with a tonnage equivalent equal to, or less than by the smallest possible amount, the heat input under paragraph (b)(1) of this section, multiplied by the SO_2 emission rate under paragraph (b)(2) of this section, and divided by 2,000 lb/ton.

(c) Notwithstanding paragraph (b) of this section and if the CAIR designated representative requests, and the permitting authority issues a CAIR opt-in permit (based on a demonstration of the intent to repower stated under § 96.283(a)(5)) providing for, allocation to a CAIR SO_2 opt-in unit of CAIR SO_2 allowances under this paragraph (subject to the conditions in §§ 96.284(h) and 96.286(g)), the permitting authority will allocate to the CAIR SO_2 opt-in unit as follows:

(1) For each control period in 2010 through 2014 for which the CAIR SO_2 opt-in unit is to be allocated CAIR SO_2 allowances,

(i) The heat input (in mmBtu) used for calculating CAIR SO_2 allowance allocations will be determined as described in paragraph (b)(1) of this section.

(ii) The SO_2 emission rate (in lb/mmBtu) used for calculating CAIR SO_2 allowance allocations will be the lesser of:

(A) The CAIR SO_2 opt-in unit's baseline SO_2 emissions rate (in lb/mmBtu) determined under § 96.284(d); or

(B) The most stringent State or Federal SO_2 emissions limitation applicable to the CAIR SO_2 opt-in unit at any time during the control period in which the CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program under § 96.284(g).

(iii) The permitting authority will allocate CAIR SO_2 allowances to the CAIR SO_2 opt-in unit with a tonnage equivalent equal to, or less than by the smallest possible amount, the heat input under paragraph (c)(1)(i) of this section, multiplied by the SO_2 emission rate under paragraph (c)(1)(ii) of this section, and divided by 2,000 lb/ton.

(2) For each control period in 2015 and thereafter for which the CAIR SO_2 opt-in unit is to be allocated CAIR SO_2 allowances,

(i) The heat input (in mmBtu) used for calculating the CAIR SO_2 allowance allocations will be determined as described in paragraph (b)(1) of this section.

(ii) The SO_2 emission rate (in lb/mmBtu) used for calculating the CAIR SO_2 allowance allocation will be the lesser of:

(A) The CAIR SO_2 opt-in unit's baseline SO_2 emissions rate (in lb/mmBtu) determined under § 96.284(d) multiplied by 10 percent; or

(B) The most stringent State or Federal SO_2 emissions limitation applicable to the CAIR SO_2 opt-in unit at any time during the control period for which CAIR SO_2 allowances are to be allocated.

(iii) The permitting authority will allocate CAIR SO_2 allowances to the CAIR SO_2 opt-in unit with a tonnage equivalent equal to, or less than by the smallest possible amount, the heat input under paragraph (c)(2)(i) of this section, multiplied by the SO_2 emission rate under paragraph (c)(2)(ii) of this section, and divided by 2,000 lb/ton.

(d) *Recordation*. (1) The Administrator will record, in the compliance account of the source that includes the CAIR SO_2 opt-in unit, the CAIR SO_2 allowances allocated by the permitting authority to the CAIR SO_2 opt-in unit under paragraph (a)(1) of this section.

(2) By December 1 of the control period in which a CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program under § 96.284(g), and December 1 of each year thereafter, the Administrator will record, in the compliance account of the source that includes the CAIR SO_2 opt-in unit, the CAIR SO_2 allowances allocated by the permitting authority to the CAIR SO_2 opt-in unit under paragraph (a)(2) of this section.

[70 FR 25362, May 12, 2005, as amended at 71 FR 25390, Apr. 28, 2006]

Subparts JJJ–ZZZ [Reserved]

Subpart AAAA—CAIR NO_X Ozone Season Trading Program General Provisions

SOURCE: 70 FR 25382, May 12, 2005, unless otherwise noted.

§ 96.301 Purpose.

This subpart and subparts BBBB through IIII establish the model rule comprising general provisions and the designated representative, permitting, allowance, monitoring, and opt-in provisions for the State Clean Air Interstate Rule (CAIR) NO_X Ozone Season Trading Program, under section 110 of the Clean Air Act and § 51.123 of this chapter, as a means of mitigating interstate transport of ozone and nitrogen oxides. The owner or operator of a unit or a source shall comply with the requirements of this subpart and subparts BBBB through IIII as a matter of federal law only if the State with jurisdiction over the unit and the source incorporates by reference such subparts or otherwise adopts the requirements of such subparts in accordance with § 51.123(aa)(1) or (2), of this chapter, the State submits to the Administrator one or more revisions of the State implementation plan that include such adoption, and the Administrator approves such revisions. If the State adopts the requirements of such subparts in accordance with § 51.123(aa)(1) or (2), (bb), or (dd) of this chapter, then the State authorizes the Administrator to assist the State in implementing the CAIR NO_X Ozone Season Trading Program by carrying out the functions set forth for the Administrator in such subparts.

§ 96.302 Definitions.

The terms used in this subpart and subparts BBBB through IIII shall have the meanings set forth in this section as follows:

Account number means the identification number given by the Administrator to each CAIR NO_X Ozone Season Allowance Tracking System account.

Acid Rain emissions limitation means a limitation on emissions of sulfur dioxide or nitrogen oxides under the Acid Rain Program.

Acid Rain Program means a multistate sulfur dioxide and nitrogen oxides air pollution control and emission reduction program established by the Administrator under title IV of the CAA and parts 72 through 78 of this chapter.

Administrator means the Administrator of the United States Environmental Protection Agency or the Administrator's duly authorized representative.

Allocate or *allocation means*, with regard to CAIR NO_X Ozone Season allowances, the determination by a permitting authority or the Administrator of the amount of such CAIR NO_X Ozone Season allowances to be initially credited to a CAIR NO_X Ozone Season unit, a new unit set-aside, or other entity.

Allowance transfer deadline means, for a control period, midnight of November 30 (if it is a business day), or midnight of the first business day thereafter (if November 30 is not a business day), immediately following the control period and is the deadline by which a CAIR NO_X Ozone Season allowance transfer must be submitted for recordation in a CAIR NO_X Ozone Season source's compliance account in order to be used to meet the source's CAIR NO_X Ozone Season emissions limitation for such control period in accordance with § 96.354.

Alternate CAIR designated representative means, for a CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with subparts BBBB and IIII of this part, to act on behalf of the CAIR designated representative in matters pertaining to the CAIR NO_X Ozone Season Trading Program. If the CAIR NO_X Ozone Season source is also a CAIR NO_X source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR NO_X Annual Trading Program. If the CAIR NO_X Ozone Season source is also a CAIR SO_2 source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR SO_2 Trading Program. If the CAIR NO_X Ozone Season source is also subject to

the Acid Rain Program, then this natural person shall be the same person as the alternate designated representative under the Acid Rain Program. If the CAIR NO_X Ozone Season source is also subject to the Hg Budget Trading Program, then this natural person shall be the same person as the alternate Hg designated representative under the Hg Budget Trading Program.

Automated data acquisition and handling system or *DAHS* means that component of the continuous emission monitoring system, or other emissions monitoring system approved for use under subpart HHHH of this part, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by subpart HHHH of this part.

Biomass means—

(1) Any organic material grown for the purpose of being converted to energy;

(2) Any organic byproduct of agriculture that can be converted into energy; or

(3) Any material that can be converted into energy and is nonmerchantable for other purposes, that is segregated from other nonmerchantable material, and that is;

(i) A forest-related organic resource, including mill residues, precommercial thinnings, slash, brush, or byproduct from conversion of trees to merchantable material; or

(ii) A wood material, including pallets, crates, dunnage, manufacturing and construction materials (other than pressure-treated, chemically-treated, or painted wood products), and landscape or right-of-way tree trimmings.

Boiler means an enclosed fossil- or other-fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

Bottoming-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful thermal energy and at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

CAIR authorized account representative means, with regard to a general account, a responsible natural person who is authorized, in accordance with subparts BBBB, FFFF, and IIII of this part, to transfer and otherwise dispose of CAIR NO_X Ozone Season allowances held in the general account and, with regard to a compliance account, the CAIR designated representative of the source.

CAIR designated representative means, for a CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with subparts BBBB and IIII of this part, to represent and legally bind each owner and operator in matters pertaining to the CAIR NO_X Ozone Season Trading Program. If the CAIR NO_X Ozone Season source is also a CAIR NO_X source, then this natural person shall be the same person as the CAIR designated representative under the CAIR NO_X Annual Trading Program. If the CAIR NO_X Ozone Season source is also a CAIR SO_2 source, then this natural person shall be the same person as the CAIR designated representative under the CAIR SO_2 Trading Program. If the CAIR NO_X Ozone Season source is also subject to the Acid Rain Program, then this natural person shall be the same person as the designated representative under the Acid Rain Program. If the CAIR NO_X Ozone Season source is also subject to the Hg Budget Trading Program, then this natural person shall be the same person as the Hg designated representative under the Hg Budget Trading Program.

CAIR NO_X Annual Trading Program means a multi-state nitrogen oxides air pollution control and emission reduction program approved and administered by the Administrator in accordance with subparts AA through II of this part and § 51.123(o)(1) or (2) of this chapter or established by the Administrator in accordance with subparts AA through II of part 97 of this chapter and §§ 51.123(p) and 52.35 of this chapter, as

a means of mitigating interstate transport of fine particulates and nitrogen oxides.

CAIR NO_X Ozone Season allowance means a limited authorization issued by a permitting authority or the Administrator under provisions of a State implementation plan that are approved under § 51.123(aa)(1) or (2) (and (bb)(1)), (bb)(2), (dd), or (ee) of this chapter, or under subpart EEEE of part 97 or § 97.388 of this chapter, to emit one ton of nitrogen oxides during a control period of the specified calendar year for which the authorization is allocated or of any calendar year thereafter under the CAIR NO_X Ozone Season Trading Program or a limited authorization issued by a permitting authority for a control period during 2003 through 2008 under the NO_X Budget Trading Program in accordance with § 51.121(p) of this chapter to emit one ton of nitrogen oxides during a control period, provided that the provision in § 51.121(b)(2)(ii)(E) of this chapter shall not be used in applying this definition and the limited authorization shall not have been used to meet the allowance-holding requirement under the NO_X Budget Trading Program. An authorization to emit nitrogen oxides that is not issued under provisions of a State implementation plan approved under § 51.123(aa)(1) or (2) (and (bb)(1)), (bb)(2), (dd), or (ee) of this chapter or subpart EEEE of part 97 or § 97.388 of this chapter or under the NO_X Budget Trading Program as described in the prior sentence shall not be a CAIR NO_X Ozone Season allowance.

CAIR NO_X Ozone Season allowance deduction or *deduct CAIR NO_X Ozone Season allowances* means the permanent withdrawal of CAIR NO_X Ozone Season allowances by the Administrator from a compliance account, *e.g.*, in order to account for a specified number of tons of total nitrogen oxides emissions from all CAIR NO_X Ozone Season units at a CAIR NO_X Ozone Season source for a control period, determined in accordance with subpart HHHH of this part, or to account for excess emissions.

CAIR NO_X Ozone Season Allowance Tracking System means the system by which the Administrator records allocations, deductions, and transfers of CAIR NO_X Ozone Season allowances under the CAIR NO_X Ozone Season Trading Program. Such allowances will be allocated, held, deducted, or transferred only as whole allowances.

CAIR NO_X Ozone Season Allowance Tracking System account means an account in the CAIR NO_X Ozone Season Allowance Tracking System established by the Administrator for purposes of recording the allocation, holding, transferring, or deducting of CAIR NO_X Ozone Season allowances.

CAIR NO_X Ozone Season allowances held or *hold CAIR NO_X Ozone Season allowances* means the CAIR NO_X Ozone Season allowances recorded by the Administrator, or submitted to the Administrator for recordation, in accordance with subparts FFFF, GGGG, and IIII of this part, in a CAIR NO_X Ozone Season Allowance Tracking System account.

CAIR NO_X Ozone Season emissions limitation means, for a CAIR NO_X Ozone Season source, the tonnage equivalent, in NO_X emissions in a control period, of the CAIR NO_X Ozone Season allowances available for deduction for the source under § 96.354(a) and (b) for the control period.

CAIR NO_X Ozone Season Trading Program means a multi-state nitrogen oxides air pollution control and emission reduction program approved and administered by the Administrator in accordance with subparts AAAA through IIII of this part and § 51.123(aa)(1) or (2) (and (bb)(1)), (bb)(2), or (dd) of this chapter or established by the Administrator in accordance with subparts AAAA through IIII of part 97 of this chapter and §§ 51.123(ee) and 52.35 of this chapter, as a means of mitigating interstate transport of ozone and nitrogen oxides.

CAIR NO_X Ozone Season source means a source that includes one or more CAIR NO_X Ozone Season units.

CAIR NO_X Ozone Season unit means a unit that is subject to the CAIR NO_X Ozone Season Trading Program under § 96.304 and, except for purposes of § 96.305 and subpart EEEE of this part, a CAIR NO_X Ozone Season opt-in unit under subpart IIII of this part.

CAIR NO_X source means a source that is subject to the CAIR NO_X Annual Trading Program.

CAIR permit means the legally binding and federally enforceable written document, or portion of such document, issued by the permitting authority under subpart CCCC of this part, including any permit revisions, specifying the CAIR NO_X Ozone Season Trading Program requirements applicable to a CAIR NO_X Ozone Season source, to each CAIR NO_X Ozone Season unit at the source, and to the owners and operators and the CAIR designated representative of the source and each such unit.

CAIR SO_2 source means a source that is subject to the CAIR SO_2 Trading Program.

CAIR SO_2 Trading Program means a multi-state sulfur dioxide air pollution control and emission reduction program approved and administered by the Administrator in accordance with subparts AAA through III of this part and § 51.124(o)(1) or (2) of this chapter or established by the Administrator in accordance with subparts AAA through III of part 97 of this chapter and §§ 51.124(r) and 52.36 of this chapter, as a means of mitigating interstate transport of fine particulates and sulfur dioxide.

Clean Air Act or *CAA* means the Clean Air Act, 42 U.S.C. 7401, *et seq*.

Coal means any solid fuel classified as anthracite, bituminous, subbituminous, or lignite.

Coal-derived fuel means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal, or chemical processing of coal.

Coal-fired means:

(1) Except for purposes of subpart EEEE of this part, combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year; or

(2) For purposes of subpart EEEE of this part, combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during a specified year.

Cogeneration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine:

(1) Having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and

(2) Producing during the 12-month period starting on the date the unit first produces electricity and during any calendar year after the calendar year in which the unit first produces electricity—

(i) For a topping-cycle cogeneration unit,

(A) Useful thermal energy not less than 5 percent of total energy output; and

(B) Useful power that, when added to one-half of useful thermal energy produced, is not less then 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output.

(ii) For a bottoming-cycle cogeneration unit, useful power not less than 45 percent of total energy input;

(3) Provided that the total energy input under paragraphs (2)(i)(B) and (2)(ii) of this definition shall equal the unit's total energy input from all fuel except biomass if the unit is a boiler.

Combustion turbine means:

(1) An enclosed device comprising a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and

(2) If the enclosed device under paragraph (1) of this definition is combined cycle, any associated duct burner, heat recovery steam generator, and steam turbine.

Commence commercial operation means, with regard to a unit:

(1) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in § 96.305 and § 96.384(h).

(i) For a unit that is a CAIR NO_X Ozone Season unit under § 96.304 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of

commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a CAIR NO_X Ozone Season unit under § 96.304 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

(2) Notwithstanding paragraph (1) of this definition and except as provided in § 96.305, for a unit that is not a CAIR NO_X Ozone Season unit under § 96.304 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a CAIR NO_X Ozone Season unit under § 96.304.

(i) For a unit with a date for commencement of commercial operation as defined in paragraph (2) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in paragraph (2) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

Commence operation means:

(1) To have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber, except as provided in § 96.384(h).

(2) For a unit that undergoes a physical change (other than replacement of the unit by a unit at the same source) after the date the unit commences operation as defined in paragraph (1) of this definition, such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit.

(3) For a unit that is replaced by a unit at the same source (*e.g.*, repowered) after the date the unit commences operation as defined in paragraph (1) of this definition, such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in paragraph (1), (2), or (3) of this definition as appropriate, except as provided in § 96.384(h).

Common stack means a single flue through which emissions from 2 or more units are exhausted.

Compliance account means a CAIR NO_X Ozone Season Allowance Tracking System account, established by the Administrator for a CAIR NO_X Ozone Season source under subpart FFFF or IIII of this part, in which any CAIR NO_X Ozone Season allowance allocations for the CAIR NO_X Ozone Season units at the source are initially recorded and in which are held any CAIR NO_X Ozone Season allowances available for use for a control period in order to meet the source's CAIR NO_X Ozone Season emissions limitation in accordance with § 96.354.

Continuous emission monitoring system or *CEMS* means the equipment required under subpart HHHH of this part to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes (using an automated data acquisition and handling system (DAHS)), a permanent record of nitrogen oxides emissions, stack gas volumetric flow rate, stack gas moisture content, and oxygen or carbon dioxide concentration (as applicable), in a manner consistent with part 75 of this chapter. The following systems are the principal types of continuous emission monitoring systems required under subpart HHHH of this part:

(1) A flow monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);

(2) A nitrogen oxides concentration monitoring system, consisting of a NO_X pollutant concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X emissions, in parts per million (ppm);

(3) A nitrogen oxides emission rate (or NO_X-diluent) monitoring system, consisting of a NO_X pollutant concentration monitor, a diluent gas (CO_2 or O_2) monitor, and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X concentration, in parts per million (ppm), diluent gas concentration, in percent CO_2 or O_2, and NO_X emission rate, in pounds per million British thermal units (lb/mmBtu);

(4) A moisture monitoring system, as defined in §75.11(b)(2) of this chapter and providing a permanent, continuous record of the stack gas moisture content, in percent H_2O;

(5) A carbon dioxide monitoring system, consisting of a CO_2 pollutant concentration monitor (or an oxygen monitor plus suitable mathematical equations from which the CO_2 concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of CO_2 emissions, in percent CO_2; and

(6) An oxygen monitoring system, consisting of an O_2 concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O_2 in percent O_2.

Control period or *ozone season* means the period beginning May 1 of a calendar year, except as provided in §96.306(c)(2), and ending on September 30 of the same year, inclusive.

Emissions means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the CAIR designated representative and as determined by the Administrator in accordance with subpart HHHH of this part.

Excess emissions means any ton of nitrogen oxides emitted by the CAIR NO_X Ozone Season units at a CAIR NO_X Ozone Season source during a control period that exceeds the CAIR NO_X Ozone Season emissions limitation for the source.

Fossil fuel means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.

Fossil-fuel-fired means, with regard to a unit, combusting any amount of fossil fuel in any calendar year.

Fuel oil means any petroleum-based fuel (including diesel fuel or petroleum derivatives such as oil tar) and any recycled or blended petroleum products or petroleum by-products used as a fuel whether in a liquid, solid, or gaseous state.

General account means a CAIR NO_X Ozone Season Allowance Tracking System account, established under subpart FFFF of this part, that is not a compliance account.

Generator means a device that produces electricity.

Gross electrical output means, with regard to a cogeneration unit, electricity made available for use, including any such electricity used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Heat input means, with regard to a specified period of time, the product (in mmBtu/time) of the gross calorific value of the fuel (in Btu/lb) divided by 1,000,000 Btu/mmBtu and multiplied by the fuel feed rate into a combustion device (in lb of fuel/time), as measured, recorded, and reported to the Administrator by the CAIR designated representative and determined by the Administrator in accordance with subpart HHHH of this part and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.

Heat input rate means the amount of heat input (in mmBtu) divided by unit operating time (in hr) or, with regard to a specific fuel, the amount of heat input attributed to the fuel (in mmBtu)

divided by the unit operating time (in hr) during which the unit combusts the fuel.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period no less than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input means the maximum amount of fuel per hour (in Btu/hr) that a unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.

Monitoring system means any monitoring system that meets the requirements of subpart HHHH of this part, including a continuous emissions monitoring system, an alternative monitoring system, or an excepted monitoring system under part 75 of this chapter.

Most stringent State or Federal NO_X emissions limitation means, with regard to a unit, the lowest NO_X emissions limitation (in terms of lb/mmBtu) that is applicable to the unit under State or Federal law, regardless of the averaging period to which the emissions limitation applies.

Nameplate capacity means, starting from the initial installation of a generator, the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings), such increased maximum amount as of such completion as specified by the person conducting the physical change.

Oil-fired means, for purposes of subpart EEEE of this part, combusting fuel oil for more than 15.0 percent of the annual heat input in a specified year and not qualifying as coal-fired.

Operator means any person who operates, controls, or supervises a CAIR NO_X Ozone Season unit or a CAIR NO_X Ozone Season source and shall include, but not be limited to, any holding company, utility system, or plant manager of such a unit or source.

Owner means any of the following persons:

(1) With regard to a CAIR NO_X Ozone Season source or a CAIR NO_X Ozone Season unit at a source, respectively:

(i) Any holder of any portion of the legal or equitable title in a CAIR NO_X Ozone Season unit at the source or the CAIR NO_X Ozone Season unit;

(ii) Any holder of a leasehold interest in a CAIR NO_X Ozone Season unit at the source or the CAIR NO_X Ozone Season unit; or

(iii) Any purchaser of power from a CAIR NO_X Ozone Season unit at the source or the CAIR NO_X Ozone Season unit under a life-of-the-unit, firm power contractual arrangement; provided that, unless expressly provided for in a leasehold agreement, owner shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based (either directly or indirectly) on the revenues or income from such CAIR NO_X Ozone Season unit; or

(2) With regard to any general account, any person who has an ownership interest with respect to the CAIR NO_X Ozone Season allowances held in the general account and who is subject to the binding agreement for the CAIR authorized account representative to

represent the person's ownership interest with respect to CAIR NO_X Ozone Season allowances.

Permitting authority means the State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to issue or revise permits to meet the requirements of the CAIR NO_X Ozone Season Trading Program or, if no such agency has been so authorized, the Administrator.

Potential electrical output capacity means 33 percent of a unit's maximum design heat input, divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

Receive or receipt of means, when referring to the permitting authority or the Administrator, to come into possession of a document, information, or correspondence (whether sent in hard copy or by authorized electronic transmission), as indicated in an official log, or by a notation made on the document, information, or correspondence, by the permitting authority or the Administrator in the regular course of business.

Recordation, *record*, or *recorded* means, with regard to CAIR NO_X Ozone Season allowances, the movement of CAIR NO_X Ozone Season allowances by the Administrator into or between CAIR NO_X Ozone Season Allowance Tracking System accounts, for purposes of allocation, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in § 75.22 of this chapter.

Replacement, *replace*, or *replaced* means, with regard to a unit, the demolishing of a unit, or the permanent shutdown and permanent disabling of a unit, and the construction of another unit (the replacement unit) to be used instead of the demolished or shutdown unit (the replaced unit).

Repowered means, with regard to a unit, replacement of a coal-fired boiler with one of the following coal-fired technologies at the same source as the coal-fired boiler:

(1) Atmospheric or pressurized fluidized bed combustion;

(2) Integrated gasification combined cycle;

(3) Magnetohydrodynamics;

(4) Direct and indirect coal-fired turbines;

(5) Integrated gasification fuel cells; or

(6) As determined by the Administrator in consultation with the Secretary of Energy, a derivative of one or more of the technologies under paragraphs (1) through (5) of this definition and any other coal-fired technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of January 1, 2005.

Serial number means, for a CAIR NO_X Ozone Season allowance, the unique identification number assigned to each CAIR NO_X Ozone Season allowance by the Administrator.

Sequential use of energy means:

(1) For a topping-cycle cogeneration unit, the use of reject heat from electricity production in a useful thermal energy application or process; or

(2) For a bottoming-cycle cogeneration unit, the use of reject heat from useful thermal energy application or process in electricity production.

Solid waste incineration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a ''solid waste incineration unit'' as defined in section 129(g)(1) of the Clean Air Act.

Source means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons. For purposes of section 502(c) of the Clean Air Act, a ''source,'' including a ''source'' with multiple units, shall be considered a single ''facility.''

State means one of the States or the District of Columbia that adopts the CAIR NO_X Ozone Season Trading Program pursuant to § 51.123(aa)(1) or (2), (bb), or (dd) of this chapter.

Submit or serve means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery. Compliance with any ''submission'' or ''service'' deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Title V operating permit means a permit issued under title V of the Clean Air Act and part 70 or part 71 of this chapter.

Title V operating permit regulations means the regulations that the Administrator has approved or issued as meeting the requirements of title V of the Clean Air Act and part 70 or 71 of this chapter.

Ton means 2,000 pounds. For the purpose of determining compliance with the CAIR NO_X Ozone Season emissions limitation, total tons of nitrogen oxides emissions for a control period shall be calculated as the sum of all recorded hourly emissions (or the mass equivalent of the recorded hourly emission rates) in accordance with subpart HHHH of this part, but with any remaining fraction of a ton equal to or greater than 0.50 tons deemed to equal one ton and any remaining fraction of a ton less than 0.50 tons deemed to equal zero tons.

Topping-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful power, including electricity, and at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

Total energy input means, with regard to a cogeneration unit, total energy of all forms supplied to the cogeneration unit, excluding energy produced by the cogeneration unit itself. Each form of energy supplied shall be measured by the lower heating value of that form of energy calculated as follows:

$$LHV = HHV - 10.55(W + 9H)$$

Where:

LHV = lower heating value of fuel in Btu/lb,
HHV = higher heating value of fuel in Btu/lb,
W = Weight % of moisture in fuel, and
H = Weight % of hydrogen in fuel.

Total energy output means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.

Unit means a stationary, fossil-fuel-fired boiler or combustion turbine or other stationary, fossil-fuel-fired combustion device.

Unit operating day means a calendar day in which a unit combusts any fuel.

Unit operating hour or *hour of unit operation* means an hour in which a unit combusts any fuel.

Useful power means, with regard to a cogeneration unit, electricity or mechanical energy made available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Useful thermal energy means, with regard to a cogeneration unit, thermal energy that is:

(1) Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;

(2) Used in a heating application (e.g., space heating or domestic hot water heating); or

(3) Used in a space cooling application (i.e., thermal energy used by an absorption chiller).

Utility power distribution system means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25390, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006; 72 FR 59206, Oct. 19, 2007]

§ 96.303 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this subpart and subparts BBBB through IIII are defined as follows:

Btu—British thermal unit
CO_2—carbon dioxide
H_2O—water
Hg—mercury
hr—hour
kW—kilowatt electrical
kWh—kilowatt hour
lb—pound
mmBtu—million Btu
MWe—megawatt electrical
MWh—megawatt hour

NO_X—nitrogen oxides
O_2—oxygen
ppm—parts per million
scfh—standard cubic feet per hour
SO_2—sulfur dioxide
yr—year

[71 FR 25392, Apr. 28, 2006]

§ 96.304 Applicability.

(a) Except as provided in paragraph (b) of this section:

(1) The following units in a State shall be CAIR NO_X Ozone Season units, and any source that includes one or more such units shall be a CAIR NO_X Ozone Season source, subject to the requirements of this subpart and subparts BBBB through HHHH of this part: any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

(2) If a stationary boiler or stationary combustion turbine that, under paragraph (a)(1) of this section, is not a CAIR NO_X Ozone Season unit begins to combust fossil fuel or to serve a generator with nameplate capacity of more than 25 MWe producing electricity for sale, the unit shall become a CAIR NO_X Ozone Season unit as provided in paragraph (a)(1) of this section on the first date on which it both combusts fossil fuel and serves such generator.

(b) The units in a State that meet the requirements set forth in paragraph (b)(1)(i), (b)(2)(i), or (b)(2)(ii) of this section shall not be CAIR NO_X Ozone Season units:

(1)(i) Any unit that is a CAIR NO_X Ozone Season unit under paragraph (a)(1) or (2) of this section:

(A) Qualifying as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit; and

(B) Not serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

(ii) If a unit qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and meets the requirements of paragraphs (b)(1)(i) of this section for at least one calendar year, but subsequently no longer meets all such requirements, the unit shall become a CAIR NO_X Ozone Season unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a cogeneration unit or January 1 after the first calendar year during which the unit no longer meets the requirements of paragraph (b)(1)(i)(B) of this section.

(2)(i) Any unit that is a CAIR NO_X Ozone Season unit under paragraph (a)(1) or (2) of this section commencing operation before January 1, 1985:

(A) Qualifying as a solid waste incineration unit; and

(B) With an average annual fuel consumption of non-fossil fuel for 1985–1987 exceeding 80 percent (on a Btu basis) and an average annual fuel consumption of non-fossil fuel for any 3 consecutive calendar years after 1990 exceeding 80 percent (on a Btu basis).

(ii) Any unit that is a CAIR NO_X Ozone Season unit under paragraph (a)(1) or (2) of this section commencing operation on or after January 1, 1985:

(A) Qualifying as a solid waste incineration unit; and

(B) With an average annual fuel consumption of non-fossil fuel for the first 3 calendar years of operation exceeding 80 percent (on a Btu basis) and an average annual fuel consumption of non-fossil fuel for any 3 consecutive calendar years after 1990 exceeding 80 percent (on a Btu basis).

(iii) If a unit qualifies as a solid waste incineration unit and meets the requirements of paragraph (b)(2)(i) or (ii) of this section for at least 3 consecutive calendar years, but subsequently no longer meets all such requirements, the unit shall become a CAIR NO_X Ozone Season unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a solid waste incineration unit or January 1 after the first 3 consecutive calendar

years after 1990 for which the unit has an average annual fuel consumption of fossil fuel of 20 percent or more.

[71 FR 25392, Apr. 28, 2006 as amended at 71 FR 74794, Dec. 13, 2006]

§ 96.305 Retired unit exemption.

(a)(1) Any CAIR NO_X Ozone Season unit that is permanently retired and is not a CAIR NO_X Ozone Season opt-in unit under subpart IIII of this part shall be exempt from the CAIR NO_X Ozone Season Trading Program, except for the provisions of this section, § 96.302, § 96.303, § 96.304, § 96.306(c)(4) through (7), § 96.307, § 96.308, and subparts BBBB and EEEE through GGGG of this part.

(2) The exemption under paragraph (a)(1) of this section shall become effective the day on which the CAIR NO_X Ozone Season unit is permanently retired. Within 30 days of the unit's permanent retirement, the CAIR designated representative shall submit a statement to the permitting authority otherwise responsible for administering any CAIR permit for the unit and shall submit a copy of the statement to the Administrator. The statement shall state, in a format prescribed by the permitting authority, that the unit was permanently retired on a specific date and will comply with the requirements of paragraph (b) of this section.

(3) After receipt of the statement under paragraph (a)(2) of this section, the permitting authority will amend any permit under subpart CCCC of this part covering the source at which the unit is located to add the provisions and requirements of the exemption under paragraphs (a)(1) and (b) of this section.

(b) *Special provisions.* (1) A unit exempt under paragraph (a) of this section shall not emit any nitrogen oxides, starting on the date that the exemption takes effect.

(2) The permitting authority will allocate CAIR NO_X Ozone Season allowances under subpart EEEE of this part to a unit exempt under paragraph (a) of this section.

(3) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under paragraph (a) of this section shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the permitting authority or the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(4) The owners and operators and, to the extent applicable, the CAIR designated representative of a unit exempt under paragraph (a) of this section shall comply with the requirements of the CAIR NO_X Ozone Season Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(5) A unit exempt under paragraph (a) of this section and located at a source that is required, or but for this exemption would be required, to have a title V operating permit shall not resume operation unless the CAIR designated representative of the source submits a complete CAIR permit application under § 96.322 for the unit not less than 18 months (or such lesser time provided by the permitting authority) before the later of January 1, 2009 or the date on which the unit resumes operation.

(6) On the earlier of the following dates, a unit exempt under paragraph (a) of this section shall lose its exemption:

(i) The date on which the CAIR designated representative submits a CAIR permit application for the unit under paragraph (b)(5) of this section;

(ii) The date on which the CAIR designated representative is required under paragraph (b)(5) of this section to submit a CAIR permit application for the unit; or

(iii) The date on which the unit resumes operation, if the CAIR designated representative is not required to submit a CAIR permit application for the unit.

(7) For the purpose of applying monitoring, reporting, and recordkeeping requirements under subpart HHHH of this part, a unit that loses its exemption under paragraph (a) of this section shall be treated as a unit that commences commercial operation on the

first date on which the unit resumes operation.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25393, Apr. 28, 2006]

§ 96.306 Standard requirements.

(a) *Permit requirements.* (1) The CAIR designated representative of each CAIR NO_X Ozone Season source required to have a title V operating permit and each CAIR NO_X Ozone Season unit required to have a title V operating permit at the source shall:

(i) Submit to the permitting authority a complete CAIR permit application under § 96.322 in accordance with the deadlines specified in § 96.321; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review a CAIR permit application and issue or deny a CAIR permit.

(2) The owners and operators of each CAIR NO_X Ozone Season source required to have a title V operating permit and each CAIR NO_X Ozone Season unit required to have a title V operating permit at the source shall have a CAIR permit issued by the permitting authority under subpart CCCC of this part for the source and operate the source and the unit in compliance with such CAIR permit.

(3) Except as provided in subpart IIII of this part, the owners and operators of a CAIR NO_X Ozone Season source that is not otherwise required to have a title V operating permit and each CAIR NO_X Ozone Season unit that is not otherwise required to have a title V operating permit are not required to submit a CAIR permit application, and to have a CAIR permit, under subpart CCCC of this part for such CAIR NO_X Ozone Season source and such CAIR NO_X Ozone Season unit.

(b) *Monitoring, reporting, and recordkeeping requirements.* (1) The owners and operators, and the CAIR designated representative, of each CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of subpart HHHH of this part.

(2) The emissions measurements recorded and reported in accordance with subpart HHHH of this part shall be used to determine compliance by each CAIR NO_X Ozone Season source with the CAIR NO_X Ozone Season emissions limitation under paragraph (c) of this section.

(c) *Nitrogen oxides ozone season emission requirements.* (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit at the source shall hold, in the source's compliance account, CAIR NO_X Ozone Season allowances available for compliance deductions for the control period under § 96.354(a) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_X Ozone Season units at the source, as determined in accordance with subpart HHHH of this part.

(2) A CAIR NO_X Ozone Season unit shall be subject to the requirements under paragraph (c)(1) of this section for the control period starting on the later of May 1, 2009 or the deadline for meeting the unit's monitor certification requirements under § 96.370(b)(1), (2), (3), or (7) and for each control period thereafter.

(3) A CAIR NO_X Ozone Season allowance shall not be deducted, for compliance with the requirements under paragraph (c)(1) of this section, for a control period in a calendar year before the year for which the CAIR NO_X Ozone Season allowance was allocated.

(4) CAIR NO_X Ozone Season allowances shall be held in, deducted from, or transferred into or among CAIR NO_X Ozone Season Allowance Tracking System accounts in accordance with subparts FFFF, GGGG, and IIII of this part.

(5) A CAIR NO_X Ozone Season allowance is a limited authorization to emit one ton of nitrogen oxides in accordance with the CAIR NO_X Ozone Season Trading Program. No provision of the CAIR NO_X Ozone Season Trading Program, the CAIR permit application, the CAIR permit, or an exemption under § 96.305 and no provision of law shall be construed to limit the authority of the State or the United States to terminate or limit such authorization.

(6) A CAIR NO_X Ozone Season allowance does not constitute a property right.

(7) Upon recordation by the Administrator under subpart FFFF, GGGG, or IIII of this part, every allocation, transfer, or deduction of a CAIR NO_X Ozone Season allowance to or from a CAIR NO_X Ozone Season source's compliance account is incorporated automatically in any CAIR permit of the source.

(d) *Excess emissions requirements.* If a CAIR NO_X Ozone Season source emits nitrogen oxides during any control period in excess of the CAIR NO_X Ozone Season emissions limitation, then:

(1) The owners and operators of the source and each CAIR NO_X Ozone Season unit at the source shall surrender the CAIR NO_X Ozone Season allowances required for deduction under § 96.354(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart, the Clean Air Act, and applicable State law.

(e) *Recordkeeping and reporting requirements.* (1) Unless otherwise provided, the owners and operators of the CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the permitting authority or the Administrator.

(i) The certificate of representation under § 96.313 for the CAIR designated representative for the source and each CAIR NO_X Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under § 96.313 changing the CAIR designated representative.

(ii) All emissions monitoring information, in accordance with subpart HHHH of this part, provided that to the extent that subpart HHHH of this part provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO_X Ozone Season Trading Program.

(iv) Copies of all documents used to complete a CAIR permit application and any other submission under the CAIR NO_X Ozone Season Trading Program or to demonstrate compliance with the requirements of the CAIR NO_X Ozone Season Trading Program.

(2) The CAIR designated representative of a CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit at the source shall submit the reports required under the CAIR NO_X Ozone Season Trading Program, including those under subpart HHHH of this part.

(f) *Liability.* (1) Each CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit shall meet the requirements of the CAIR NO_X Ozone Season Trading Program.

(2) Any provision of the CAIR NO_X Ozone Season Trading Program that applies to a CAIR NO_X Ozone Season source or the CAIR designated representative of a CAIR NO_X Ozone Season source shall also apply to the owners and operators of such source and of the CAIR NO_X Ozone Season units at the source.

(3) Any provision of the CAIR NO_X Ozone Season Trading Program that applies to a CAIR NO_X Ozone Season unit or the CAIR designated representative of a CAIR NO_X Ozone Season unit shall also apply to the owners and operators of such unit.

(g) *Effect on other authorities.* No provision of the CAIR NO_X Ozone Season Trading Program, a CAIR permit application, a CAIR permit, or an exemption under § 96.305 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_X Ozone Season source or CAIR NO_X Ozone Season unit from compliance with any other provision of the applicable, approved State implementation plan, a

federally enforceable permit, or the Clean Air Act.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25393, Apr. 28, 2006]

§ 96.307 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the CAIR NO_X Ozone Season Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the CAIR NO_X Ozone Season Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the CAIR NO_X Ozone Season Trading Program, falls on a weekend or a State or Federal holiday, the time period shall be extended to the next business day.

§ 96.308 Appeal procedures.

The appeal procedures for decisions of the Administrator under the CAIR NO_X Ozone Season Trading Program are set forth in part 78 of this chapter.

Subpart BBBB—CAIR Designated Representative for CAIR NO_X Ozone Season Sources

SOURCE: 70 FR 25382, May 12, 2005, unless otherwise noted.

§ 96.310 Authorization and responsibilities of CAIR designated representative.

(a) Except as provided under § 96.311, each CAIR NO_X Ozone Season source, including all CAIR NO_X Ozone Season units at the source, shall have one and only one CAIR designated representative, with regard to all matters under the CAIR NO_X Ozone Season Trading Program concerning the source or any CAIR NO_X Ozone Season unit at the source.

(b) The CAIR designated representative of the CAIR NO_X Ozone Season source shall be selected by an agreement binding on the owners and operators of the source and all CAIR NO_X Ozone Season units at the source and shall act in accordance with the certification statement in § 96.313(a)(4)(iv).

(c) Upon receipt by the Administrator of a complete certificate of representation under § 96.313, the CAIR designated representative of the source shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the CAIR NO_X Ozone Season source represented and each CAIR NO_X Ozone Season unit at the source in all matters pertaining to the CAIR NO_X Ozone Season Trading Program, notwithstanding any agreement between the CAIR designated representative and such owners and operators. The owners and operators shall be bound by any decision or order issued to the CAIR designated representative by the permitting authority, the Administrator, or a court regarding the source or unit.

(d) No CAIR permit will be issued, no emissions data reports will be accepted, and no CAIR NO_X Ozone Season Allowance Tracking System account will be established for a CAIR NO_X Ozone Season unit at a source, until the Administrator has received a complete certificate of representation under § 96.313 for a CAIR designated representative of the source and the CAIR NO_X Ozone Season units at the source.

(e)(1) Each submission under the CAIR NO_X Ozone Season Trading Program shall be submitted, signed, and certified by the CAIR designated representative for each CAIR NO_X Ozone Season source on behalf of which the submission is made. Each such submission shall include the following certification statement by the CAIR designated representative: ''I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for

submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) The permitting authority and the Administrator will accept or act on a submission made on behalf of owner or operators of a CAIR NO_X Ozone Season source or a CAIR NO_X Ozone Season unit only if the submission has been made, signed, and certified in accordance with paragraph (e)(1) of this section.

§ 96.311 Alternate CAIR designated representative.

(a) A certificate of representation under § 96.313 may designate one and only one alternate CAIR designated representative, who may act on behalf of the CAIR designated representative. The agreement by which the alternate CAIR designated representative is selected shall include a procedure for authorizing the alternate CAIR designated representative to act in lieu of the CAIR designated representative.

(b) Upon receipt by the Administrator of a complete certificate of representation under § 96.313, any representation, action, inaction, or submission by the alternate CAIR designated representative shall be deemed to be a representation, action, inaction, or submission by the CAIR designated representative.

(c) Except in this section and §§ 96.302, 96.310(a) and (d), 96.312, 96.313, 96.315, 96.351, and 96.382 whenever the term ''CAIR designated representative'' is used in subparts AAAA through IIII of this part, the term shall be construed to include the CAIR designated representative or any alternate CAIR designated representative.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25393, Apr. 28, 2006]

§ 96.312 Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.

(a) *Changing CAIR designated representative.* The CAIR designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 96.313. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CAIR designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new CAIR designated representative and the owners and operators of the CAIR NO_X Ozone Season source and the CAIR NO_X Ozone Season units at the source.

(b) *Changing alternate CAIR designated representative.* The alternate CAIR designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 96.313. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate CAIR designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new alternate CAIR designated representative and the owners and operators of the CAIR NO_X Ozone Season source and the CAIR NO_X Ozone Season units at the source.

(c) *Changes in owners and operators.* (1) In the event an owner or operator of a CAIR NO_X Ozone Season source or a CAIR NO_X Ozone Season unit is not included in the list of owners and operators in the certificate of representation under § 96.313, such owner or operator shall be deemed to be subject to and bound by the certificate of representation, the representations, actions, inactions, and submissions of the CAIR designated representative and any alternate CAIR designated representative of the source or unit, and the decisions and orders of the permitting authority, the Administrator, or a court, as if the owner or operator were included in such list.

(2) Within 30 days following any change in the owners and operators of a CAIR NO_X Ozone Season source or a CAIR NO_X Ozone Season unit, including the addition of a new owner or operator, the CAIR designated representative or any alternate CAIR designated representative shall submit a revision to the certificate of representation

under § 96.313 amending the list of owners and operators to include the change.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25393, Apr. 28, 2006]

§ 96.313 Certificate of representation.

(a) A complete certificate of representation for a CAIR designated representative or an alternate CAIR designated representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the CAIR NO_X Ozone Season source, and each CAIR NO_X Ozone Season unit at the source, for which the certificate of representation is submitted, including identification and nameplate capacity of each generator served by each such unit.

(2) The name, address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the CAIR designated representative and any alternate CAIR designated representative.

(3) A list of the owners and operators of the CAIR NO_X Ozone Season source and of each CAIR NO_X Ozone Season unit at the source.

(4) The following certification statements by the CAIR designated representative and any alternate CAIR designated representative—

(i) ''I certify that I was selected as the CAIR designated representative or alternate CAIR designated representative, as applicable, by an agreement binding on the owners and operators of the source and each CAIR NO_X Ozone Season unit at the source.''

(ii) ''I certify that I have all the necessary authority to carry out my duties and responsibilities under the CAIR NO_X Ozone Season Trading Program on behalf of the owners and operators of the source and of each CAIR NO_X Ozone Season unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions.''

(iii) ''I certify that the owners and operators of the source and of each CAIR NO_X Ozone Season unit at the source shall be bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.''

(iv) ''Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, a CAIR NO_X Ozone Season unit, or where a utility or industrial customer purchases power from a CAIR NO_X Ozone Season unit under a life-of-the-unit, firm power contractual arrangement, I certify that: I have given a written notice of my selection as the 'CAIR designated representative' or 'alternate CAIR designated representative', as applicable, and of the agreement by which I was selected to each owner and operator of the source and of each CAIR NO_X Ozone Season unit at the source; and CAIR NO_X Ozone Season allowances and proceeds of transactions involving CAIR NO_X Ozone Season allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, except that, if such multiple holders have expressly provided for a different distribution of CAIR NO_X Ozone Season allowances by contract, CAIR NO_X Ozone Season allowances and proceeds of transactions involving CAIR NO_X Ozone Season allowances will be deemed to be held or distributed in accordance with the contract.''

(5) The signature of the CAIR designated representative and any alternate CAIR designated representative and the dates signed.

(b) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the certificate of representation shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25393, Apr. 28, 2006]

§ 96.314 Objections concerning CAIR designated representative.

(a) Once a complete certificate of representation under § 96.313 has been submitted and received, the permitting authority and the Administrator will rely on the certificate of representation unless and until a superseding complete certificate of representation

under § 96.313 is received by the Administrator.

(b) Except as provided in § 96.312(a) or (b), no objection or other communication submitted to the permitting authority or the Administrator concerning the authorization, or any representation, action, inaction, or submission, of the CAIR designated representative shall affect any representation, action, inaction, or submission of the CAIR designated representative or the finality of any decision or order by the permitting authority or the Administrator under the CAIR NO_X Ozone Season Trading Program.

(c) Neither the permitting authority nor the Administrator will adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any CAIR designated representative, including private legal disputes concerning the proceeds of CAIR NO_X Ozone Season allowance transfers.

§ 96.315 Delegation by CAIR designated representative and alternate CAIR designated representative.

(a) A CAIR designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this part.

(b) An alternate CAIR designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this part.

(c) In order to delegate authority to make an electronic submission to the Administrator in accordance with paragraph (a) or (b) of this section, the CAIR designated representative or alternate CAIR designated representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(1) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such CAIR designated representative or alternate CAIR designated representative;

(2) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to as an ''agent'');

(3) For each such natural person, a list of the type or types of electronic submissions under paragraph (a) or (b) of this section for which authority is delegated to him or her; and

(4) The following certification statements by such CAIR designated representative or alternate CAIR designated representative:

(i) ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a CAIR designated representative or alternate CAIR designated representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 96.315(d) shall be deemed to be an electronic submission by me.''

(ii) ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 96.315(d), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 96.315 is terminated.''.

(d) A notice of delegation submitted under paragraph (c) of this section shall be effective, with regard to the CAIR designated representative or alternate CAIR designated representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such CAIR designated representative or alternate CAIR designated representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(e) Any electronic submission covered by the certification in paragraph

(c)(4)(i) of this section and made in accordance with a notice of delegation effective under paragraph (d) of this section shall be deemed to be an electronic submission by the CAIR designated representative or alternate CAIR designated representative submitting such notice of delegation.

[71 FR 25393, Apr. 28, 2006]

Subpart CCCC—Permits

SOURCE: 70 FR 25382, May 12, 2005, unless otherwise noted.

§ 96.320 General CAIR NO_X Ozone Season Trading Program permit requirements.

(a) For each CAIR NO_X Ozone Season source required to have a title V operating permit or required, under subpart IIII of this part, to have a title V operating permit or other federally enforceable permit, such permit shall include a CAIR permit administered by the permitting authority for the title V operating permit or the federally enforceable permit as applicable. The CAIR portion of the title V permit or other federally enforceable permit as applicable shall be administered in accordance with the permitting authority's title V operating permits regulations promulgated under part 70 or 71 of this chapter or the permitting authority's regulations for other federally enforceable permits as applicable, except as provided otherwise by § 96.305, this subpart and subpart IIII of this part.

(b) Each CAIR permit shall contain, with regard to the CAIR NO_X Ozone Season source and the CAIR NO_X Ozone Season units at the source covered by the CAIR permit, all applicable CAIR NO_X Ozone Season Trading Program, CAIR NO_X Annual Trading Program, and CAIR SO_2 Trading Program requirements and shall be a complete and separable portion of the title V operating permit or other federally enforceable permit under paragraph (a) of this section.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25394, Apr. 28, 2006]

§ 96.321 Submission of CAIR permit applications.

(a) *Duty to apply*. The CAIR designated representative of any CAIR NO_X Ozone Season source required to have a title V operating permit shall submit to the permitting authority a complete CAIR permit application under § 96.322 for the source covering each CAIR NO_X Ozone Season unit at the source at least 18 months (or such lesser time provided by the permitting authority) before the later of January 1, 2009 or the date on which the CAIR NO_X Ozone Season unit commences commercial operation, except as provided in § 96.383(a).

(b) *Duty to Reapply*. For a CAIR NO_X Ozone Season source required to have a title V operating permit, the CAIR designated representative shall submit a complete CAIR permit application under § 96.322 for the source covering each CAIR NO_X Ozone Season unit at the source to renew the CAIR permit in accordance with the permitting authority's title V operating permits regulations addressing permit renewal, except as provided in § 96.383(b).

[70 FR 25382, May 12, 2005, as amended at 71 FR 25394, Apr. 28, 2006]

§ 96.322 Information requirements for CAIR permit applications.

A complete CAIR permit application shall include the following elements concerning the CAIR NO_X Ozone Season source for which the application is submitted, in a format prescribed by the permitting authority:

(a) Identification of the CAIR NO_X Ozone Season source;

(b) Identification of each CAIR NO_X Ozone Season unit at the CAIR NO_X Ozone Season source; and

(c) The standard requirements under § 96.306.

§ 96.323 CAIR permit contents and term.

(a) Each CAIR permit will contain, in a format prescribed by the permitting authority, all elements required for a complete CAIR permit application under § 96.322.

(b) Each CAIR permit is deemed to incorporate automatically the definitions of terms under § 96.302 and, upon recordation by the Administrator

under subpart FFFF, GGGG, or IIII of this part, every allocation, transfer, or deduction of a CAIR NO_X Ozone Season allowance to or from the compliance account of the CAIR NO_X Ozone Season source covered by the permit.

(c) The term of the CAIR permit will be set by the permitting authority, as necessary to facilitate coordination of the renewal of the CAIR permit with issuance, revision, or renewal of the CAIR NO_X Ozone Season source's title V operating permit or other federally enforceable permit as applicable.

§ 96.324 CAIR permit revisions.

Except as provided in § 96.323(b), the permitting authority will revise the CAIR permit, as necessary, in accordance with the permitting authority's title V operating permits regulations or the permitting authority's regulations for other federally enforceable permits as applicable addressing permit revisions.

Subpart DDDD [Reserved]

Subpart EEEE—CAIR NO_X Ozone Season Allowance Allocations

SOURCE: 70 FR 25382, May 12, 2005, unless otherwise noted.

§ 96.340 State trading budgets.

(a) Except as provided in paragraph (b) of this section, the State trading budgets for annual allocations of CAIR NO_X Ozone Season allowances for the control periods in 2009 through 2014 and in 2015 and thereafter are respectively as follows:

State	State trading budget for 2009–2014 (tons)	State trading budget for 2015 and thereafter (tons)
Alabama	32,182	26,818
Arkansas	11,515	9,596
Connecticut	2,559	2,559
Delaware	2,226	1,855
District of Columbia	112	94
Florida	47,912	39,926
Illinois	30,701	28,981
Indiana	45,952	39,273
Iowa	14,263	11,886
Kentucky	36,045	30,587
Louisiana	17,085	14,238
Maryland	12,834	10,695
Massachusetts	7,551	6,293
Michigan	28,971	24,142
Mississippi	8,714	7,262
Missouri	26,678	22,231
New Jersey	6,654	5,545
New York	20,632	17,193
North Carolina	28,392	23,660
Ohio	45,664	39,945
Pennsylvania	42,171	35,143
South Carolina	15,249	12,707
Tennessee	22,842	19,035
Virginia	15,994	13,328
West Virginia	26,859	26,525
Wisconsin	17,987	14,989

(b) If a permitting authority issues additional CAIR NO_X Ozone Season allowance allocations under § 51.123(aa)(2)(iii)(A) of this chapter, the amount in the State trading budget for a control period in a calendar year will be the sum of the amount set forth for the State and for the year in paragraph (a) of this section and the amount of additional CAIR NO_X Ozone Season allowance allocations issued under § 51.123(aa)(2)(iii)(A) of this chapter for the year.

§ 96.341 Timing requirements for CAIR NO_X Ozone Season allowance allocations.

(a) By October 31, 2006, the permitting authority will submit to the Administrator the CAIR NO_X Ozone Season allowance allocations, in a format prescribed by the Administrator and in accordance with § 96.342(a) and (b), for the control periods in 2009, 2010, 2011, 2012, 2013, and 2014.

(b) By October 31, 2009 and October 31 of each year thereafter, the permitting authority will submit to the Administrator the CAIR NO_X Ozone Season allowance allocations, in a format prescribed by the Administrator and in accordance with § 96.342(a) and (b), for the control period in the sixth year after the year of the applicable deadline for submission under this paragraph.

(c) By July 31, 2009 and July 31 of each year thereafter, the permitting authority will submit to the Administrator the CAIR NO_X Ozone Season allowance allocations, in a format prescribed by the Administrator and in accordance with § 96.342(c), (a), and (d), for the control period in the year of the applicable deadline for submission under this paragraph.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25394, Apr. 28, 2006]

§ 96.342 CAIR NO_X Ozone Season allowance allocations.

(a)(1) The baseline heat input (in mmBtu) used with respect to CAIR NO_X Ozone Season allowance allocations under paragraph (b) of this section for each CAIR NO_X Ozone Season unit will be:

(i) For units commencing operation before January 1, 2001 the average of the 3 highest amounts of the unit's adjusted control period heat input for 2000 through 2004, with the adjusted control period heat input for each year calculated as follows:

(A) If the unit is coal-fired during the year, the unit's control period heat input for such year is multiplied by 100 percent;

(B) If the unit is oil-fired during the year, the unit's control period heat input for such year is multiplied by 60 percent; and

(C) If the unit is not subject to paragraph (a)(1)(i)(A) or (B) of this section, the unit's control period heat input for such year is multiplied by 40 percent.

(ii) For units commencing operation on or after January 1, 2001 and operating each calendar year during a period of 5 or more consecutive calendar years, the average of the 3 highest amounts of the unit's total converted control period heat input over the first such 5 years.

(2)(i) A unit's control period heat input, and a unit's status as coal-fired or oil-fired, for a calendar year under paragraph (a)(1)(i) of this section, and a unit's total tons of NO_X emissions during a control period in a calendar year under paragraph (c)(3) of this section, will be determined in accordance with part 75 of this chapter, to the extent the unit was otherwise subject to the requirements of part 75 of this chapter for the year, or will be based on the best available data reported to the permitting authority for the unit, to the extent the unit was not otherwise subject to the requirements of part 75 of this chapter for the year.

(ii) A unit's converted control period heat input for a calendar year specified under paragraph (a)(1)(ii) of this section equals:

(A) Except as provided in paragraph (a)(2)(ii)(B) or (C) of this section, the control period gross electrical output of the generator or generators served by the unit multiplied by 7,900 Btu/kWh, if the unit is coal-fired for the year, or 6,675 Btu/kWh, if the unit is not coal-fired for the year, and divided by 1,000,000 Btu/mmBtu, provided that if a generator is served by 2 or more units, then the gross electrical output of the generator will be attributed to each unit in proportion to the unit's share of the total control period heat input of such units for the year;

(B) For a unit that is a boiler and has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the total heat energy (in Btu) of the steam produced by the boiler during the control period, divided by 0.8 and by 1,000,000 Btu/mmBtu; or

(C) For a unit that is a combustion turbine and has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the control period gross electrical output of the enclosed device comprising the compressor, combustor, and turbine multiplied by 3,413 Btu/kWh, plus the total heat energy (in Btu) of the steam produced by any associated heat recovery steam generator during the control period divided by 0.8, and with the sum divided by 1,000,000 Btu/mmBtu.

(b)(1) For each control period in 2009 and thereafter, the permitting authority will allocate to all CAIR NO_X Ozone Season units in the State that have a baseline heat input (as determined under paragraph (a) of this section) a total amount of CAIR NO_X Ozone Season allowances equal to 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the tons of NO_X emissions in the State trading budget under § 96.340 (except as provided in paragraph (d) of this section).

(2) The permitting authority will allocate CAIR NO_X Ozone Season allowances to each CAIR NO_X Ozone Season unit under paragraph (b)(1) of this section in an amount determined by multiplying the total amount of CAIR NO_X Ozone Season allowances allocated under paragraph (b)(1) of this section by the ratio of the baseline heat input

of such CAIR NO_X Ozone Season unit to the total amount of baseline heat input of all such CAIR NO_X Ozone Season units in the State and rounding to the nearest whole allowance as appropriate.

(c) For each control period in 2009 and thereafter, the permitting authority will allocate CAIR NO_X Ozone Season allowances to CAIR NO_X Ozone Season units in a State that are not allocated CAIR NO_X Ozone Season allowances under paragraph (b) of this section because the units do not yet have a baseline heat input under paragraph (a) of this section or because the units have a baseline heat input but all CAIR NO_X Ozone Season allowances available under paragraph (b) of this section for the control period are already allocated, in accordance with the following procedures:

(1) The permitting authority will establish a separate new unit set-aside for each control period. Each new unit set-aside will be allocated CAIR NO_X Ozone Season allowances equal to 5 percent for a control period in2009 through 2014, and 3 percent for a control period in 2015 and thereafter, of the amount of tons of NO_X emissions in the State trading budget under § 96.340.

(2) The CAIR designated representative of such a CAIR NO_X Ozone Season unit may submit to the permitting authority a request, in a format specified by the permitting authority, to be allocated CAIR NO_X Ozone Season allowances, starting with the later of the control period in 2009 or the first control period after the control period in which the CAIR NO_X Ozone Season unit commences commercial operation and until the first control period for which the unit is allocated CAIR NO_X Ozone Season allowances under paragraph (b) of this section. A separate CAIR NO_X Ozone Season allowance allocation request for each control period for which CAIR NO_X Ozone Season allowances are sought must be submitted on or before February 1 before such control period and after the date on which the CAIR NO_X Ozone Season unit commences commercial operation.

(3) In a CAIR NO_X Ozone Season allowance allocation request under paragraph (c)(2) of this section, the CAIR designated representative may request for a control period CAIR NO_X Ozone Season allowances in an amount not exceeding the CAIR NO_X Ozone Season unit's total tons of NO_X emissions during the control period immediately before such control period.

(4) The permitting authority will review each CAIR NO_X Ozone Season allowance allocation request under paragraph (c)(2) of this section and will allocate CAIR NO_X Ozone Season allowances for each control period pursuant to such request as follows:

(i) The permitting authority will accept an allowance allocation request only if the request meets, or is adjusted by the permitting authority as necessary to meet, the requirements of paragraphs (c)(2) and (3) of this section.

(ii) On or after February 1 before the control period, the permitting authority will determine the sum of the CAIR NO_X Ozone Season allowances requested (as adjusted under paragraph (c)(4)(i) of this section) in all allowance allocation requests accepted under paragraph (c)(4)(i) of this section for the control period.

(iii) If the amount of CAIR NO_X Ozone Season allowances in the new unit set-aside for the control period is greater than or equal to the sum under paragraph (c)(4)(ii) of this section, then the permitting authority will allocate the amount of CAIR NO_X Ozone Season allowances requested (as adjusted under paragraph (c)(4)(i) of this section) to each CAIR NO_X Ozone Season unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section.

(iv) If the amount of CAIR NO_X Ozone Season allowances in the new unit set-aside for the control period is less than the sum under paragraph (c)(4)(ii) of this section, then the permitting authority will allocate to each CAIR NO_X Ozone Season unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section the amount of the CAIR NO_X Ozone Season allowances requested (as adjusted under paragraph (c)(4)(i) of this section), multiplied by the amount of CAIR NO_X Ozone Season allowances in the new unit set-aside for the control period, divided by the sum determined

under paragraph (c)(4)(ii) of this section, and rounded to the nearest whole allowance as appropriate.

(v) The permitting authority will notify each CAIR designated representative that submitted an allowance allocation request of the amount of CAIR NO_X Ozone Season allowances (if any) allocated for the control period to the CAIR NO_X Ozone Season unit covered by the request.

(d) If, after completion of the procedures under paragraph (c)(4) of this section for a control period, any unallocated CAIR NO_X Ozone Season allowances remain in the new unit set-aside for the control period, the permitting authority will allocate to each CAIR NO_X Ozone Season unit that was allocated CAIR NO_X Ozone Season allowances under paragraph (b) of this section an amount of CAIR NO_X Ozone Season allowances equal to the total amount of such remaining unallocated CAIR NO_X Ozone Season allowances, multiplied by the unit's allocation under paragraph (b) of this section, divided by 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the amount of tons of NO_X emissions in the State trading budget under § 96.340, and rounded to the nearest whole allowance as appropriate.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25394, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

Subpart FFFF—CAIR NO_X Ozone Season Allowance Tracking System

SOURCE: 70 FR 25382, May 12, 2005, unless otherwise noted.

§ 96.350 [Reserved]

§ 96.351 Establishment of accounts.

(a) *Compliance accounts.* Except as provided in § 96.384(e), upon receipt of a complete certificate of representation under § 96.313, the Administrator will establish a compliance account for the CAIR NO_X Ozone Season source for which the certificate of representation was submitted, unless the source already has a compliance account.

(b) *General accounts*—(1) *Application for general account.* (i) Any person may apply to open a general account for the purpose of holding and transferring CAIR NO_X Ozone Season allowances. An application for a general account may designate one and only one CAIR authorized account representative and one and only one alternate CAIR authorized account representative who may act on behalf of the CAIR authorized account representative. The agreement by which the alternate CAIR authorized account representative is selected shall include a procedure for authorizing the alternate CAIR authorized account representative to act in lieu of the CAIR authorized account representative.

(ii) A complete application for a general account shall be submitted to the Administrator and shall include the following elements in a format prescribed by the Administrator:

(A) Name, mailing address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the CAIR authorized account representative and any alternate CAIR authorized account representative;

(B) Organization name and type of organization, if applicable;

(C) A list of all persons subject to a binding agreement for the CAIR authorized account representative and any alternate CAIR authorized account representative to represent their ownership interest with respect to the CAIR NO_X Ozone Season allowances held in the general account;

(D) The following certification statement by the CAIR authorized account representative and any alternate CAIR authorized account representative: "I certify that I was selected as the CAIR authorized account representative or the alternate CAIR authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to CAIR NO_X Ozone Season allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the CAIR NO_X Ozone Season Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions,

inactions, or submissions and by any order or decision issued to me by the Administrator or a court regarding the general account.''

(E) The signature of the CAIR authorized account representative and any alternate CAIR authorized account representative and the dates signed.

(iii) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the application for a general account shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) *Authorization of CAIR authorized account representative andalternate CAIR authorized account representative.* (i) Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section:

(A) The Administrator will establish a general account for the person or persons for whom the application is submitted.

(B) The CAIR authorized account representative and any alternate CAIR authorized account representative for the general account shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to CAIR NO_X Ozone Season allowances held in the general account in all matters pertaining to the CAIR NO_X Ozone Season Trading Program, notwithstanding any agreement between the CAIR authorized account representative or any alternate CAIR authorized account representative and such person. Any such person shall be bound by any order or decision issued to the CAIR authorized account representative or any alternate CAIR authorized account representative by the Administrator or a court regarding the general account.

(C) Any representation, action, inaction, or submission by any alternate CAIR authorized account representative shall be deemed to be a representation, action, inaction, or submission by the CAIR authorized account representative.

(ii) Each submission concerning the general account shall be submitted, signed, and certified by the CAIR authorized account representative or any alternate CAIR authorized account representative for the persons having an ownership interest with respect to CAIR NO_X Ozone Season allowances held in the general account. Each such submission shall include the following certification statement by the CAIR authorized account representative or any alternate CAIR authorized account representative: ''I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the CAIR NO_X Ozone Season allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(iii) The Administrator will accept or act on a submission concerning the general account only if the submission has been made, signed, and certified in accordance with paragraph (b)(2)(ii) of this section.

(3) *Changing CAIR authorized account representative and alternate CAIR authorized account representative; changes in persons with ownership interest.* (i) The CAIR authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CAIR authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new

CAIR authorized account representative and the persons with an ownership interest with respect to the CAIR NO_X Ozone Season allowances in the general account.

(ii) The alternate CAIR authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate CAIR authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate CAIR authorized account representative and the persons with an ownership interest with respect to the CAIR NO_X Ozone Season allowances in the general account.

(iii)(A) In the event a person having an ownership interest with respect to CAIR NO_X Ozone Season allowances in the general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representation, actions, inactions, and submissions of the CAIR authorized account representative and any alternate CAIR authorized account representative of the account, and the decisions and orders of the Administrator or a court, as if the person were included in such list.

(B) Within 30 days following any change in the persons having an ownership interest with respect to CAIR NO_X Ozone Season allowances in the general account, including the addition of a new person, the CAIR authorized account representative or any alternate CAIR authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the CAIR NO_X Ozone Season allowances in the general account to include the change.

(4) *Objections concerning CAIR authorized account representative and alternate CAIR authorized account representative.* (i) Once a complete application for a general account under paragraph (b)(1) of this section has been submitted and received, the Administrator will rely on the application unless and until a superseding complete application for a general account under paragraph (b)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (b)(3)(i) or (ii) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative for a general account shall affect any representation, action, inaction, or submission of the CAIR authorized account representative or any alternative CAIR authorized account representative or the finality of any decision or order by the Administrator under the CAIR NO_X Ozone Season Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative for a general account, including private legal disputes concerning the proceeds of CAIR NO_X Ozone Season allowance transfers.

(5) *Delegation by CAIR authorized account representative and alternate CAIR authorized account representative.* (i) A CAIR authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under subparts FFFF and GGGG of this part.

(ii) An alternate CAIR authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under subparts FFFF and GGGG of this part.

(iii) In order to delegate authority to make an electronic submission to the Administrator in accordance with

paragraph (b)(5)(i) or (ii) of this section, the CAIR authorized account representative or alternate CAIR authorized account representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(A) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such CAIR authorized account representative or alternate CAIR authorized account representative;

(B) The name, address, e-mail address, telephone number, and, facsimile transmission number (if any) of each such natural person (referred to as an ''agent'');

(C) For each such natural person, a list of the type or types of electronic submissions under paragraph (b)(5)(i) or (ii) of this section for which authority is delegated to him or her;

(D) The following certification statement by such CAIR authorized account representative or alternate CAIR authorized account representative: ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a CAIR authorized account representative or alternate CAIR authorized representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 96.351(b)(5)(iv) shall be deemed to be an electronic submission by me.''; and

(E) The following certification statement by such CAIR authorized account representative or alternate CAIR authorized account representative: ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 96.351(b)(5)(iv), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 96.351(b)(5) is terminated.''.

(iv) A notice of delegation submitted under paragraph (b)(5)(iii) of this section shall be effective, with regard to the CAIR authorized account representative or alternate CAIR authorized account representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such CAIR authorized account representative or alternate CAIR authorized account representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(v) Any electronic submission covered by the certification in paragraph (b)(5)(iii)(D) of this section and made in accordance with a notice of delegation effective under paragraph (b)(5)(iv) of this section shall be deemed to be an electronic submission by the CAIR designated representative or alternate CAIR designated representative submitting such notice of delegation.

(c) *Account identification.* The Administrator will assign a unique identifying number to each account established under paragraph (a) or (b) of this section.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25394, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.352 Responsibilities of CAIR authorized account representative.

Following the establishment of a CAIR NO_X Ozone Season Allowance Tracking System account, all submissions to the Administrator pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of CAIR NO_X Ozone Season allowances in the account, shall be made only by the CAIR authorized account representative for the account.

§ 96.353 Recordation of CAIR NO_X Ozone Season allowance allocations.

(a) By September 30, 2007, the Administrator will record in the CAIR NO_X Ozone Season source's compliance account the CAIR NO_X Ozone Season allowances allocated for the CAIR NO_X Ozone Season units at the source, as submitted by the permitting authority in accordance with § 96.341(a), for the control periods in 2009, 2010, 2011, 2012, 2013, and 2014.

(b) By December 1, 2009, the Administrator will record in the CAIR NO_X

Ozone Season source's compliance account the CAIR NO_X Ozone Season allowances allocated for the CAIR NO_X Ozone Season units at the source, as submitted by the permitting authority in accordance with § 96.341(b), for the control period in 2015.

(c) By December 1, 2010 and December 1 of each year thereafter, the Administrator will record in the CAIR NO_X Ozone Season source's compliance account the CAIR NO_X Ozone Season allowances allocated for the CAIR NO_X Ozone Season units at the source, as submitted by the permitting authority in accordance with § 96.341(b), for the control period in the sixth year after the year of the applicable deadline for recordation under this paragraph.

(d) By September 1, 2009 and September 1 of each year thereafter, the Administrator will record in the CAIR NO_X Ozone Season source's compliance account the CAIR NO_X Ozone Season allowances allocated for the CAIR NO_X Ozone Season units at the source, as submitted by the permitting authority or determined by the Administrator in accordance with § 96.341(c), for the control period in the year of the applicable deadline for recordation under this paragraph.

(e) *Serial numbers for allocated CAIR NO_X Ozone Season allowances.* When recording the allocation of CAIR NO_X Ozone Season allowances for a CAIR NO_X Ozone Season unit in a compliance account, the Administrator will assign each CAIR NO_X Ozone Season allowance a unique identification number that will include digits identifying the year of the control period for which the CAIR NO_X Ozone Season allowance is allocated.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25394, Apr. 28, 2006]

EDITORIAL NOTE: At 71 FR 25395, Apr. 28, 2006, § 96.353(d) was amended; however, the amendment could not be incorporated due to inaccurate amendatory instruction.

§ 96.354 Compliance with CAIR NO_X emissions limitation.

(a) *Allowance transfer deadline.* The CAIR NO_X Ozone Season allowances are available to be deducted for compliance with a source's CAIR NO_X Ozone Season emissions limitation for a control period in a given calendar year only if the CAIR NO_X Ozone Season allowances:

(1) Were allocated for the control period in the year or a prior year; and

(2) Are held in the compliance account as of the allowance transfer deadline for the control period or are transferred into the compliance account by a CAIR NO_X Ozone Season allowance transfer correctly submitted for recordation under §§ 96.360 and 96.361 by the allowance transfer deadline for the control period.

(c)(1) *Identification of CAIR NO* $_X$ *Ozone Season allowances by serial number.* The CAIR authorized account representative for a source's compliance account may request that specific CAIR NO_X Ozone Season allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period in accordance with paragraph (b) or (d) of this section. Such request shall be submitted to the Administrator by the allowance transfer deadline for the control period and include, in a format prescribed by the Administrator, the identification of the CAIR NO_X Ozone Season source and the appropriate serial numbers.

(2) *First-in, first-out.* The Administrator will deduct CAIR NO_X Ozone Season allowances under paragraph (b) or (d) of this section from the source's compliance account, in the absence of an identification or in the case of a partial identification of CAIR NO_X Ozone Season allowances by serial number under paragraph (c)(1) of this section, on a first-in, first-out (FIFO) accounting basis in the following order:

(i) Any CAIR NO_X Ozone Season allowances that were allocated to the units at the source, in the order of recordation; and then

(ii) Any CAIR NO_X Ozone Season allowances that were allocated to any entity and transferred and recorded in the compliance account pursuant to subpart GGGG of this part, in the order of recordation.

(d) *Deductions for excess emissions.* (1) After making the deductions for compliance under paragraph (b) of this section for a control period in a calendar year in which the CAIR NO_X Ozone Season source has excess emissions, the Administrator will deduct from the

source's compliance account an amount of CAIR NO_X Ozone Season allowances, allocated for the control period in the immediately following calendar year, equal to 3 times the number of tons of the source's excess emissions.

(2) Any allowance deduction required under paragraph (d)(1) of this section shall not affect the liability of the owners and operators of the CAIR NO_X Ozone Season source or the CAIR NO_X Ozone Season units at the source for any fine, penalty, or assessment, or their obligation to comply with any other remedy, for the same violations, as ordered under the Clean Air Act or applicable State law.

(e) *Recordation of deductions.* The Administrator will record in the appropriate compliance account all deductions from such an account under paragraphs (b) and (d) of this section and subpart IIII.

(f) *Administrator's action on submissions.* (1) The Administrator may review and conduct independent audits concerning any submission under the CAIR NO_X Ozone Season Trading Program and make appropriate adjustments of the information in the submissions.

(2) The Administrator may deduct CAIR NO_X Ozone Season allowances from or transfer CAIR NO_X Ozone Season allowances to a source's compliance account based on the information in the submissions, as adjusted under paragraph (f)(1) of this section, and record such deductions and transfers.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25395, Apr. 28, 2006]

§ 96.355 Banking.

(a) CAIR NO_X Ozone Season allowances may be banked for future use or transfer in a compliance account or a general account in accordance with paragraph (b) of this section.

(b) Any CAIR NO_X Ozone Season allowance that is held in a compliance account or a general account will remain in such account unless and until the CAIR NO_X Ozone Season allowance is deducted or transferred under § 96.354, § 96.356, or subpart GG of this part.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25395, Apr. 28, 2006]

EDITORIAL NOTE: At 71 FR 25395, Apr. 28, 2006, § 96.355 was amended; however, the amendment could not be incorporated due to inaccurate amendatory instruction.

§ 96.356 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any CAIR NO_X Ozone Season Allowance Tracking System account. Within 10 business days of making such correction, the Administrator will notify the CAIR authorized account representative for the account.

§ 96.357 Closing of general accounts.

(a) The CAIR authorized account representative of a general account may submit to the Administrator a request to close the account, which shall include a correctly submitted allowance transfer under §§ 96.360 and 96.361 for any CAIR NO_X Ozone Season allowances in the account to one or more other CAIR NO_X Ozone Season Allowance Tracking System accounts.

(b) If a general account has no allowance transfers in or out of the account for a 12-month period or longer and does not contain any CAIR NO_X Ozone Season allowances, the Administrator may notify the CAIR authorized account representative for the account that the account will be closed following 20 business days after the notice is sent. The account will be closed after the 20-day period unless, before the end of the 20-day period, the Administrator receives a correctly submitted transfer of CAIR NO_X Ozone Season allowances into the account under §§ 96.360 and 96.361 or a statement submitted by the CAIR authorized account representative demonstrating to the satisfaction of the Administrator good cause as to why the account should not be closed.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25395, Apr. 28, 2006]

Subpart GGGG—CAIR NO_X Ozone Season Allowance Transfers

SOURCE: 70 FR 25382, May 12, 2005, unless otherwise noted.

§ 96.360 Submission of CAIR NO_X Ozone Season allowance transfers.

A CAIR authorized account representative seeking recordation of a CAIR NO_X Ozone Season allowance transfer shall submit the transfer to the Administrator. To be considered correctly submitted, the CAIR NO_X Ozone Season allowance transfer shall include the following elements, in a format specified by the Administrator:

(a) The account numbers for both the transferor and transferee accounts;

(b) The serial number of each CAIR NO_X Ozone Season allowance that is in the transferor account and is to be transferred; and

(c) The name and signature of the CAIR authorized account representative of the transferor account and the date signed.

§ 96.361 EPA recordation.

(a) Within 5 business days (except as provided in paragraph (b) of this section) of receiving a CAIR NO_X Ozone Season allowance transfer, the Administrator will record a CAIR NO_X Ozone Season allowance transfer by moving each CAIR NO_X Ozone Season allowance from the transferor account to the transferee account as specified by the request, provided that:

(1) The transfer is correctly submitted under § 96.360; and

(2) The transferor account includes each CAIR NO_X Ozone Season allowance identified by serial number in the transfer.

(b) A CAIR NO_X Ozone Season allowance transfer that is submitted for recordation after the allowance transfer deadline for a control period and that includes any CAIR NO_X Ozone Season allowances allocated for any control period before such allowance transfer deadline will not be recorded until after the Administrator completes the deductions under § 96.354 for the control period immediately before such allowance transfer deadline.

(c) Where a CAIR NO_X Ozone Season allowance transfer submitted for recordation fails to meet the requirements of paragraph (a) of this section, the Administrator will not record such transfer.

§ 96.362 Notification.

(a) *Notification of recordation.* Within 5 business days of recordation of a CAIR NO_X Ozone Season allowance transfer under § 96.361, the Administrator will notify the CAIR authorized account representatives of both the transferor and transferee accounts.

(b) *Notification of non-recordation.* Within 10 business days of receipt of a CAIR NO_X Ozone Season allowance transfer that fails to meet the requirements of § 96.361(a), the Administrator will notify the CAIR authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer, and

(2) The reasons for such non-recordation.

(c) Nothing in this section shall preclude the submission of a CAIR NO_X Ozone Season allowance transfer for recordation following notification of non-recordation.

Subpart HHHH—Monitoring and Reporting

SOURCE: 70 FR 25382, May 12, 2005, unless otherwise noted.

§ 96.370 General requirements.

The owners and operators, and to the extent applicable, the CAIR designated representative, of a CAIR NO_X Ozone Season unit, shall comply with the monitoring, recordkeeping, and reporting requirements as provided in this subpart and in subpart H of part 75 of this chapter. For purposes of complying with such requirements, the definitions in § 96.302 and in § 72.2 of this chapter shall apply, and the terms ''affected unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') in part 75 of this chapter shall be deemed to refer to the terms ''CAIR NO_X Ozone Season unit,'' ''CAIR designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') respectively, as defined in § 96.302. The owner or operator of a unit that is not a CAIR

NO_X Ozone Season unit but that is monitored under § 75.72(b)(2)(ii) of this chapter shall comply with the same monitoring, recordkeeping, and reporting requirements as a CAIR NO_X Ozone Season unit.

(a) *Requirements for installation, certification, and data accounting.* The owner or operator of each CAIR NO_X Ozone Season unit shall:

(1) Install all monitoring systems required under this subpart for monitoring NO_X mass emissions and individual unit heat input (including all systems required to monitor NO_X emission rate, NO_X concentration, stack gas moisture content, stack gas flow rate, CO_2 or O_2 concentration, and fuel flow rate, as applicable, in accordance with §§ 75.71 and 75.72 of this chapter);

(2) Successfully complete all certification tests required under § 96.371 and meet all other requirements of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraph (a)(1) of this section; and

(3) Record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section.

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the following dates. The owner or operator shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the following dates.

(1) For the owner or operator of a CAIR NO_X Ozone Season unit that commences commercial operation before July 1, 2007, by May 1, 2008.

(2) For the owner or operator of a CAIR NO_X Ozone Season unit that commences commercial operation on or after July 1, 2007 and that reports on an annual basis under § 96.374(d), by the later of the following dates:

(i) 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which the unit commences commercial operation; or

(ii) May 1, 2008.

(3) For the owner or operator of a CAIR NO_X Ozone Season unit that commences commercial operation on or after July 1, 2007 and that reports on a control period basis under § 96.374(d)(2)(ii), by the later of the following dates:

(i) 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which the unit commences commercial operation; or

(ii) If the compliance date under paragraph (b)(3)(i) of this section is not during a control period, May 1 immediately following the compliance date under paragraph (b)(3)(i) of this section.

(4) For the owner or operator of a CAIR NO_X Ozone Season unit for which construction of a new stack or flue or installation of add-on NO_X emission controls is completed after the applicable deadline under paragraph (b)(1), (2), (6), or (7) of this section and that reports on an annual basis under § 96.374(d), by 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which emissions first exit to the atmosphere through the new stack or flue or add-on NO_X emissions controls.

(5) For the owner or operator of a CAIR NO_X Ozone Season unit for which construction of a new stack or flue or installation of add-on NO_X emission controls is completed after the applicable deadline under paragraph (b)(1), (3), (6), or (7) of this section and that reports on a control period basis under § 96.374(d)(2)(ii), by the later of the following dates:

(i) 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which emissions first exit to the atmosphere through the new stack or flue or add-on NO_X emissions controls; or

(ii) If the compliance date under paragraph (b)(5)(i) of this section is not during a control period, May 1 immediately following the compliance date under paragraph (b)(5)(i) of this section.

(6) Notwithstanding the dates in paragraphs (b)(1), (2), and (3) of this section, for the owner or operator of a unit for which a CAIR NO_X Ozone Season opt-in permit application is submitted and not withdrawn and a CAIR

opt-in permit is not yet issued or denied under subpart IIII of this part, by the date specified in § 96.384(b).

(7) Notwithstanding the dates in paragraphs (b)(1), (2), and (3) of this section, for the owner or operator of a CAIR NO_X Ozone Season opt-in unit, by the date on which the CAIR NO_X Ozone Season opt-in unit under subpart IIII of this part enters the CAIR NO_X Ozone Season Trading Program as provided in § 96.384(g).

(c) *Reporting data.* The owner or operator of a CAIR NO_X Ozone Season unit that does not meet the applicable compliance date set forth in paragraph (b) of this section for any monitoring system under paragraph (a)(1) of this section shall, for each such monitoring system, determine, record, and report maximum potential (or, as appropriate, minimum potential) values for NO_X concentration, NO_X emission rate, stack gas flow rate, stack gas moisture content, fuel flow rate, and any other parameters required to determine NO_X mass emissions and heat input in accordance with § 75.31(b)(2) or (c)(3) of this chapter, section 2.4 of appendix D to part 75 of this chapter, or section 2.5 of appendix E to part 75 of this chapter, as applicable.

(d) *Prohibitions.* (1) No owner or operator of a CAIR NO_X Ozone Season unit shall use any alternative monitoring system, alternative reference method, or any other alternative to any requirement of this subpart without having obtained prior written approval in accordance with § 96.375.

(2) No owner or operator of a CAIR NO_X Ozone Season unit shall operate the unit so as to discharge, or allow to be discharged, NO_X emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(3) No owner or operator of a CAIR NO_X Ozone Season unit shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording NO_X mass emissions discharged into the atmosphere or heat input, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(4) No owner or operator of a CAIR NO_X Ozone Season unit shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by an exemption under § 96.305 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the permitting authority for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The CAIR designated representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with § 96.371(d)(3)(i).

(e) *Long-term cold storage.* The owner or operator of a CAIR NO_X Ozone Season unit is subject to the applicable provisions of part 75 of this chapter concerning units in long-term cold storage.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25395, Apr. 28, 2006]

§ 96.371 Initial certification and recertification procedures.

(a) The owner or operator of a CAIR NO_X Ozone Season unit shall be exempt from the initial certification requirements of this section for a monitoring system under § 96.370(a)(1) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with part 75 of this chapter; and

(2) The applicable quality-assurance and quality-control requirements of § 75.21 of this chapter and appendix B, appendix D, and appendix E to part 75 of this chapter are fully met for the certified monitoring system described in paragraph (a)(1) of this section.

(b) The recertification provisions of this section shall apply to a monitoring system under § 96.370(a)(1) exempt from initial certification requirements under paragraph (a) of this section.

(c) If the Administrator has previously approved a petition under § 75.17(a) or (b) of this chapter for apportioning the NO_X emission rate measured in a common stack or a petition under § 75.66 of this chapter for an alternative to a requirement in § 75.12 or § 75.17 of this chapter, the CAIR designated representative shall resubmit the petition to the Administrator under § 96.375(a) to determine whether the approval applies under the CAIR NO_X Ozone Season Trading Program.

(d) Except as provided in paragraph (a) of this section, the owner or operator of a CAIR NO_X Ozone Season unit shall comply with the following initial certification and recertification procedures for a continuous monitoring system (i.e., a continuous emission monitoring system and an excepted monitoring system under appendices D and E to part 75 of this chapter) under § 96.370(a)(1). The owner or operator of a unit that qualifies to use the low mass emissions excepted monitoring methodology under § 75.19 of this chapter or that qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall comply with the procedures in paragraph (e) or (f) of this section respectively.

(1) *Requirements for initial certification.* The owner or operator shall ensure that each continuous monitoring system under § 96.370(a)(1)(including the automated data acquisition and handling system) successfully completes all of the initial certification testing required under § 75.20 of this chapter by the applicable deadline in § 96.370(b). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this subpart in a location where no such monitoring system was previously installed, initial certification in accordance with § 75.20 of this chapter is required.

(2) *Requirements for recertification.* Whenever the owner or operator makes a replacement, modification, or change in any certified continuous emission monitoring system under § 96.370(a)(1) that may significantly affect the ability of the system to accurately measure or record NO_X mass emissions or heat input rate or to meet the quality-assurance and quality-control requirements of § 75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the monitoring system in accordance with § 75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify each continuous emission monitoring system whose accuracy is potentially affected by the change, in accordance with § 75.20(b) of this chapter. Examples of changes to a continuous emission monitoring system that require recertification include: replacement of the analyzer, complete replacement of an existing continuous emission monitoring system, or change in location or orientation of the sampling probe or site. Any fuel flowmeter systems, and any excepted NO_X monitoring system under appendix E to part 75 of this chapter, under § 96.370(a)(1) are subject to the recertification requirements in § 75.20(g)(6) of this chapter.

(3) *Approval process for initial certification and recertification.* Paragraphs (d)(3)(i) through (iv) of this section apply to both initial certification and recertification of a continuous monitoring system under § 96.370(a)(1). For recertifications, replace the words ''certification'' and ''initial certification'' with the word ''recertification'', replace the word ''certified'' with the word ''recertified,'' and follow the procedures in §§ 75.20(b)(5) and (g)(7) of this chapter in lieu of the procedures in paragraph (d)(3)(v) of this section.

(i) *Notification of certification.* The CAIR designated representative shall submit to the permitting authority, the appropriate EPA Regional Office, and the Administrator written notice of the dates of certification testing, in accordance with § 96.373.

(ii) *Certification application.* The CAIR designated representative shall submit to the permitting authority a certification application for each monitoring

system. A complete certification application shall include the information specified in § 75.63 of this chapter.

(iii) *Provisional certification date.* The provisional certification date for a monitoring system shall be determined in accordance with § 75.20(a)(3) of this chapter. A provisionally certified monitoring system may be used under the CAIR NO_X Ozone Season Trading Program for a period not to exceed 120 days after receipt by the permitting authority of the complete certification application for the monitoring system under paragraph (d)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the permitting authority does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of the date of receipt of the complete certification application by the permitting authority.

(iv) *Certification application approval process.* The permitting authority will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under paragraph (d)(3)(ii) of this section. In the event the permitting authority does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the CAIR NO_X Ozone Season Trading Program.

(A) *Approval notice.* If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of part 75 of this chapter, then the permitting authority will issue a written notice of approval of the certification application within 120 days of receipt.

(B) *Incomplete application notice.* If the certification application is not complete, then the permitting authority will issue a written notice of incompleteness that sets a reasonable date by which the CAIR designated representative must submit the additional information required to complete the certification application. If the CAIR designated representative does not comply with the notice of incompleteness by the specified date, then the permitting authority may issue a notice of disapproval under paragraph (d)(3)(iv)(C) of this section. The 120-day review period shall not begin before receipt of a complete certification application.

(C) *Disapproval notice.* If the certification application shows that any monitoring system does not meet the performance requirements of part 75 of this chapter or if the certification application is incomplete and the requirement for disapproval under paragraph (d)(3)(iv)(B) of this section is met, then the permitting authority will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the permitting authority and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification (as defined under § 75.20(a)(3) of this chapter). The owner or operator shall follow the procedures for loss of certification in paragraph (d)(3)(v) of this section for each monitoring system that is disapproved for initial certification.

(D) *Audit decertification.* The permitting authority or, for a CAIR NO_X Ozone Season opt-in unit or a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart IIII of this part, the Administrator may issue a notice of disapproval of the certification status of a monitor in accordance with § 96.372(b).

(v) *Procedures for loss of certification.* If the permitting authority or the Administrator issues a notice of disapproval of a certification application under paragraph (d)(3)(iv)(C) of this section or a notice of disapproval of certification status under paragraph (d)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each disapproved monitoring system, for each hour of unit operation during the period of invalid data specified under § 75.20(a)(4)(iii), § 75.20(g)(7), or § 75.21(e) of this chapter and continuing until the applicable date and hour specified under § 75.20(a)(5)(i) or (g)(7) of this chapter:

(*1*) For a disapproved NO_X emission rate (*i.e.*, NO_X-diluent) system, the maximum potential NO_X emission rate, as defined in § 72.2 of this chapter.

(*2*) For a disapproved NO_X pollutant concentration monitor and disapproved flow monitor, respectively, the maximum potential concentration of NO_X and the maximum potential flow rate, as defined in sections 2.1.2.1 and 2.1.4.1 of appendix A to part 75 of this chapter.

(*3*) For a disapproved moisture monitoring system and disapproved diluent gas monitoring system, respectively, the minimum potential moisture percentage and either the maximum potential CO_2 concentration or the minimum potential O_2 concentration (as applicable), as defined in sections 2.1.5, 2.1.3.1, and 2.1.3.2 of appendix A to part 75 of this chapter.

(*4*) For a disapproved fuel flowmeter system, the maximum potential fuel flow rate, as defined in section 2.4.2.1 of appendix D to part 75 of this chapter.

(*5*) For a disapproved excepted NO_X monitoring system under appendix E to part 75 of this chapter, the fuel-specific maximum potential NO_X emission rate, as defined in § 72.2 of this chapter.

(B) The CAIR designated representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (d)(3)(i) and (ii) of this section.

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the permitting authority's or the Administrator's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(e) *Initial certification and recertification procedures for units using the low mass emission excepted methodology under § 75.19 of this chapter*. The owner or operator of a unit qualified to use the low mass emissions (LME) excepted methodology under § 75.19 of this chapter shall meet the applicable certification and recertification requirements in §§ 75.19(a)(2) and 75.20(h) of this chapter. If the owner or operator of such a unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall also meet the certification and recertification requirements in § 75.20(g) of this chapter.

(f) *Certification/recertification procedures for alternative monitoring systems*. The CAIR designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator and, if applicable, the permitting authority under subpart E of part 75 of this chapter shall comply with the applicable notification and application procedures of § 75.20(f) of this chapter.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25395, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.372 Out of control periods.

(a) Whenever any monitoring system fails to meet the quality-assurance and quality-control requirements or data validation requirements of part 75 of this chapter, data shall be substituted using the applicable missing data procedures in subpart D or subpart H of, or appendix D or appendix E to, part 75 of this chapter.

(b) *Audit decertification*. Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under § 96.371 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the permitting authority or, for a CAIR NO_X Ozone Season opt-in unit or a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart IIII of this part, the Administrator will

issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the permitting authority or the Administrator. By issuing the notice of disapproval, the permitting authority or the Administrator revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the applicable initial certification or recertification procedures in § 96.371 for each disapproved monitoring system.

§ 96.373 Notifications.

The CAIR designated representative for a CAIR NO_X Ozone Season unit shall submit written notice to the permitting authority and the Administrator in accordance with § 75.61 of this chapter.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25395, Apr. 28, 2006]

§ 96.374 Recordkeeping and reporting.

(a) *General provisions*. The CAIR designated representative shall comply with all recordkeeping and reporting requirements in this section, the applicable recordkeeping and reporting requirements under § 75.73 of this chapter, and the requirements of § 96.310(e)(1).

(b) *Monitoring plans*. The owner or operator of a CAIR NO_X Ozone Season unit shall comply with requirements of § 75.73(c) and (e) of this chapter and, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart IIII of this part, §§ 96.383 and 96.384(a).

(c) *Certification applications*. The CAIR designated representative shall submit an application to the permitting authority within 45 days after completing all initial certification or recertification tests required under § 96.371, including the information required under § 75.63 of this chapter.

(d) *Quarterly reports*. The CAIR designated representative shall submit quarterly reports, as follows:

(1) If the CAIR NO_X Ozone Season unit is subject to an Acid Rain emissions limitation or a CAIR NO_X emissions limitation or if the owner or operator of such unit chooses to report on an annual basis under this subpart, the CAIR designated representative shall meet the requirements of subpart H of part 75 of this chapter (concerning monitoring of NO_X mass emissions) for such unit for the entire year and shall report the NO_X mass emissions data and heat input data for such unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(i) For a unit that commences commercial operation before July 1, 2007, the calendar quarter covering May 1, 2008 through June 30, 2008;

(ii) For a unit that commences commercial operation on or after July 1, 2007, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 96.370(b), unless that quarter is the third or fourth quarter of 2007 or the first quarter of 2008, in which case reporting shall commence in the quarter covering May 1, 2008 through June 30, 2008;

(iii) Notwithstanding paragraphs (d)(1)(i) and (ii) of this section, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart IIII of this part, the calendar quarter corresponding to the date specified in § 96.384(b); and

(iv) Notwithstanding paragraphs (d)(1)(i) and (ii) of this section, for a CAIR NO_X Ozone Season opt-in unit under subpart IIII of this part, the calendar quarter corresponding to the date on which the CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program as provided in § 96.384(g).

(2) If the CAIR NO_X Ozone Season unit is not subject to an Acid Rain emissions limitation or a CAIR NO_X

emissions limitation, then the CAIR designated representative shall either:

(i) Meet the requirements of subpart H of part 75 (concerning monitoring of NO_X mass emissions) for such unit for the entire year and report the NO_X mass emissions data and heat input data for such unit in accordance with paragraph (d)(1) of this section; or

(ii) Meet the requirements of subpart H of part 75 for the control period (including the requirements in § 75.74(c) of this chapter) and report NO_X mass emissions data and heat input data (including the data described in § 75.74(c)(6) of this chapter) for such unit only for the control period of each year and report, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(A) For a unit that commences commercial operation before July 1, 2007, the calendar quarter covering May 1, 2008 through June 30, 2008;

(B) For a unit that commences commercial operation on or after July 1, 2007, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 96.370(b), unless that date is not during a control period, in which case reporting shall commence in the quarter that includes May 1 through June 30 of the first control period after such date;.

(C) Notwithstanding paragraphs (d)(2)(ii)(A) and (2)(ii)(B) of this section, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart IIII of this part, the calendar quarter corresponding to the date specified in § 96.384(b); and

(D) Notwithstanding paragraphs (d)(2)(ii)(A) and (2)(ii)(B) of this section, for a CAIR NO_X Ozone Season opt-in unit under subpart IIII of this part, the calendar quarter corresponding to the date on which the CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program as provided in § 96.384(g).

(2) The CAIR designated representative shall submit each quarterly report to the Administrator within 30 days following the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in § 75.73(f) of this chapter.

(3) For CAIR NO_X Ozone Season units that are also subject to an Acid Rain emissions limitation or the CAIR NO_X Annual Trading Program or CAIR SO_2 Trading Program, quarterly reports shall include the applicable data and information required by subparts F through H of part 75 of this chapter as applicable, in addition to the NO_X mass emission data, heat input data, and other information required by this subpart.

(e) *Compliance certification*. The CAIR designated representative shall submit to the Administrator a compliance certification (in a format prescribed by the Administrator) in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(1) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications;

(2) For a unit with add-on NO_X emission controls and for all hours where NO_X data are substituted in accordance with § 75.34(a)(1) of this chapter, the add-on emission controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B to part 75 of this chapter and the substitute data values do not systematically underestimate NO_X emissions; and

(3) For a unit that is reporting on a control period basis under paragraph (d)(2)(ii) of this section, the NO_X emission rate and NO_X concentration values substituted for missing data under subpart D of part 75 of this chapter are calculated using only values from a control period and do not systematically underestimate NO_X emissions.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25395, Apr. 28, 2006]

§ 96.375 Petitions.

(a) Except as provided in paragraph (b)(2) of this section, the CAIR designated representative of a CAIR NO_X Ozone Season unit that is subject to an Acid Rain emissions limitation may submit a petition under § 75.66 of this chapter to the Administrator requesting approval to apply an alternative to any requirement of this subpart. Application of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that the petition is approved in writing by the Administrator, in consultation with the permitting authority.

(b)(1) The CAIR designated representative of a CAIR NO_X Ozone Season unit that is not subject to an Acid Rain emissions limitation may submit a petition under § 75.66 of this chapter to the permitting authority and the Administrator requesting approval to apply an alternative to any requirement of this subpart. Application of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that the petition is approved in writing by both the permitting authority and the Administrator.

(2) The CAIR designated representative of a CAIR NO_X Ozone Season unit that is subject to an Acid Rain emissions limitation may submit a petition under § 75.66 of this chapter to the permitting authority and the Administrator requesting approval to apply an alternative to a requirement concerning any additional continuous emission monitoring system required under § 75.72 of this chapter. Application of an alternative to any such requirement is in accordance with this subpart only to the extent that the petition is approved in writing by both the permitting authority and the Administrator.

Subpart IIII—CAIR NO_X Ozone Season Opt-in Units

SOURCE: 70 FR 25382, May 12, 2005, unless otherwise noted.

§ 96.380 Applicability.

A CAIR NO_X Ozone Season opt-in unit must be a unit that:

(a) Is located in the State;

(b) Is not a CAIR NO_X Ozone Season unit under § 96.304 and is not covered by a retired unit exemption under § 96.305 that is in effect;

(c) Is not covered by a retired unit exemption under § 72.8 of this chapter that is in effect;

(d) Has or is required or qualified to have a title V operating permit or other federally enforceable permit; and

(e) Vents all of its emissions to a stack and can meet the monitoring, recordkeeping, and reporting requirements of subpart HHHH of this part.

§ 96.381 General.

(a) Except as otherwise provided in §§ 96.301 through 96.304, §§ 96.306 through 96.308, and subparts BBBB and CCCC and subparts FFFF through HHHH of this part, a CAIR NO_X Ozone Season opt-in unit shall be treated as a CAIR NO_X Ozone Season unit for purposes of applying such sections and subparts of this part.

(b) Solely for purposes of applying, as provided in this subpart, the requirements of subpart HHHH of this part to a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under this subpart, such unit shall be treated as a CAIR NO_X Ozone Season unit before issuance of a CAIR opt-in permit for such unit.

§ 96.382 CAIR designated representative.

Any CAIR NO_X Ozone Season opt-in unit, and any unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under this subpart, located at the same source as one or more CAIR NO_X Ozone Season units shall have the same CAIR designated representative and alternate CAIR designated representative as such CAIR NO_X Ozone Season units.

§ 96.383 Applying for CAIR opt-in permit.

(a) *Applying for initial CAIR opt-in permit.* The CAIR designated representative of a unit meeting the requirements for a CAIR NO_X Ozone Season opt-in unit in § 96.380 may apply for an initial CAIR opt-in permit at any time, except

as provided under § 96.386 (f) and (g), and, in order to apply, must submit the following:

(1) A complete CAIR permit application under § 96.322;

(2) A certification, in a format specified by the permitting authority, that the unit:

(i) Is not a CAIR NO_X Ozone Season unit under § 96.304 and is not covered by a retired unit exemption under § 96.305 that is in effect;

(ii) Is not covered by a retired unit exemption under § 72.8 of this chapter that is in effect;

(iii) Vents all of its emissions to a stack; and

(iv) Has documented heat input for more than 876 hours during the 6 months immediately preceding submission of the CAIR permit application under § 96.322;

(3) A monitoring plan in accordance with subpart HHHH of this part;

(4) A complete certificate of representation under § 96.313 consistent with § 96.382, if no CAIR designated representative has been previously designated for the source that includes the unit; and

(5) A statement, in a format specified by the permitting authority, whether the CAIR designated representative requests that the unit be allocated CAIR NO_X Ozone Season allowances under § 96.388(b) or § 96.388(c) (subject to the conditions in §§ 96.384(h) and 96.386(g)). If allocation under § 96.388(c) is requested, this statement shall include a statement that the owners and operators of the unit intend to repower the unit before January 1, 2015 and that they will provide, upon request, documentation demonstrating such intent.

(b) *Duty to reapply.* (1) The CAIR designated representative of a CAIR NO_X Ozone Season opt-in unit shall submit a complete CAIR permit application under § 96.322 to renew the CAIR opt-in unit permit in accordance with the permitting authority's regulations for title V operating permits, or the permitting authority's regulations for other federally enforceable permits if applicable, addressing permit renewal.

(2) Unless the permitting authority issues a notification of acceptance of withdrawal of the CAIR NO_X Ozone Season opt-in unit from the CAIR NO_X Ozone Season Trading Program in accordance with § 96.186 or the unit becomes a CAIR NO_X Ozone Season unit under § 96.304, the CAIR NO_X opt-in unit shall remain subject to the requirements for a CAIR NO_X Ozone Season opt-in unit, even if the CAIR designated representative for the CAIR NO_X Ozone Season opt-in unit fails to submit a CAIR permit application that is required for renewal of the CAIR opt-in permit under paragraph (b)(1) of this section.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25396, Apr. 28, 2006]

§ 96.384 Opt-in process.

The permitting authority will issue or deny a CAIR opt-in permit for a unit for which an initial application for a CAIR opt-in permit under § 96.383 is submitted in accordance with the following:

(a) *Interim review of monitoring plan.* The permitting authority and the Administrator will determine, on an interim basis, the sufficiency of the monitoring plan accompanying the initial application for a CAIR opt-in permit under § 96.383. A monitoring plan is sufficient, for purposes of interim review, if the plan appears to contain information demonstrating that the NO_X emissions rate and heat input of the unit and all other applicable parameters are monitored and reported in accordance with subpart HHHH of this part. A determination of sufficiency shall not be construed as acceptance or approval of the monitoring plan.

(b) *Monitoring and reporting.* (1)(i) If the permitting authority and the Administrator determine that the monitoring plan is sufficient under paragraph (a) of this section, the owner or operator shall monitor and report the NO_X emissions rate and the heat input of the unit and all other applicable parameters, in accordance with subpart HHHH of this part, starting on the date of certification of the appropriate monitoring systems under subpart HHHH of this part and continuing until a CAIR opt-in permit is denied under § 96.384(f) or, if a CAIR opt-in permit is issued, the date and time when the unit is withdrawn from the CAIR NO_X Ozone Season Trading Program in accordance with § 96.386.

(ii) The monitoring and reporting under paragraph (b)(1)(i) of this section shall include the entire control period immediately before the date on which the unit enters the CAIR NO_X Ozone Season Trading Program under § 96.384(g), during which period monitoring system availability must not be less than 90 percent under subpart HHHH of this part and the unit must be in full compliance with any applicable State or Federal emissions or emissions-related requirements.

(2) To the extent the NO_X emissions rate and the heat input of the unit are monitored and reported in accordance with subpart HHHH of this part for one or more control periods, in addition to the control period under paragraph (b)(1)(ii) of this section, during which control periods monitoring system availability is not less than 90 percent under subpart HHHH of this part and the unit is in full compliance with any applicable State or Federal emissions or emissions-related requirements and which control periods begin not more than 3 years before the unit enters the CAIR NO_X Ozone Season Trading Program under § 96.384(g), such information shall be used as provided in paragraphs (c) and (d) of this section.

(c) *Baseline heat input.* The unit's baseline heat input shall equal:

(1) If the unit's NO_X emissions rate and heat input are monitored and reported for only one control period, in accordance with paragraph (b)(1) of this section, the unit's total heat input (in mmBtu) for the control period; or

(2) If the unit's NO_X emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, the average of the amounts of the unit's total heat input (in mmBtu) for the control periods under paragraphs (b)(1)(ii) and (2) of this section.

(d) *Baseline NO_X emission rate.* The unit's baseline NO_X emission rate shall equal:

(1) If the unit's NO_X emissions rate and heat input are monitored and reported for only one control period, in accordance with paragraph (b)(1) of this section, the unit's NO_X emissions rate (in lb/mmBtu) for the control period;

(2) If the unit's NO_X emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, and the unit does not have add-on NO_X emission controls during any such control periods, the average of the amounts of the unit's NO_X emissions rate (in lb/mmBtu) for the control periods under paragraphs (b)(1)(ii) and (2) of this section; or

(3) If the unit's NO_X emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, and the unit has add-on NO_X emission controls during any such control periods, the average of the amounts of the unit's NO_X emissions rate (in lb/mmBtu) for such control periods during which the unit has add-on NO_X emission controls.

(e) *Issuance of CAIR opt-in permit.* After calculating the baseline heat input and the baseline NO_X emissions rate for the unit under paragraphs (c) and (d) of this section and if the permitting authority determines that the CAIR designated representative shows that the unit meets the requirements for a CAIR NO_X Ozone Season opt-in unit in § 96.380 and meets the elements certified in § 96.383(a)(2), the permitting authority will issue a CAIR opt-in permit. The permitting authority will provide a copy of the CAIR opt-in permit to the Administrator, who will then establish a compliance account for the source that includes the CAIR NO_X Ozone Season opt-in unit unless the source already has a compliance account.

(f) *Issuance of denial of CAIR opt-in permit.* Notwithstanding paragraphs (a) through (e) of this section, if at any time before issuance of a CAIR opt-in permit for the unit, the permitting authority determines that the CAIR designated representative fails to show that the unit meets the requirements for a CAIR NO_X Ozone Season opt-in unit in § 96.380 or meets the elements certified in § 96.383(a)(2), the permitting authority will issue a denial of a CAIR opt-in permit for the unit.

(g) *Date of entry into CAIR NO_X Ozone Season Trading Program.* A unit for which an initial CAIR opt-in permit is

issued by the permitting authority shall become a CAIR NO_X Ozone Season opt-in unit, and a CAIR NO_X Ozone Season unit, as of the later of May 1, 2009 or May 1 of the first control period during which such CAIR opt-in permit is issued.

(h) *Repowered CAIR NO_X Ozone Season opt-in unit.* (1) If CAIR designated representative requests, and the permitting authority issues a CAIR opt-in permit providing for, allocation to a CAIR NO_X Ozone Season opt-in unit of CAIR NO_X Ozone Season allowances under § 96.388(c) and such unit is repowered after its date of entry into the CAIR NO_X Ozone Season Trading Program under paragraph (g) of this section, the repowered unit shall be treated as a CAIR NO_X Ozone Season opt-in unit replacing the original CAIR NO_X Ozone Season opt-in unit, as of the date of start-up of the repowered unit's combustion chamber.

(2) Notwithstanding paragraphs (c) and (d) of this section, as of the date of start-up under paragraph (h)(1) of this section, the repowered unit shall be deemed to have the same date of commencement of operation, date of commencement of commercial operation, baseline heat input, and baseline NO_X emission rate as the original CAIR NO_X Ozone Season opt-in unit, and the original CAIR NO_X Ozone Season opt-in unit shall no longer be treated as a CAIR NO_X Ozone Season opt-in unit or a CAIR NO_X Ozone Season unit.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25396, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.385 CAIR opt-in permit contents.

(a) Each CAIR opt-in permit will contain:

(1) All elements required for a complete CAIR permit application under § 96.322;

(2) The certification in § 96.383(a)(2);

(3) The unit's baseline heat input under § 96.384(c);

(4) The unit's baseline NO_X emission rate under § 96.384(d);

(5) A statement whether the unit is to be allocated CAIR NO_X Ozone Season allowances under § 96.388(b) or § 96.388(c) (subject to the conditions in §§ 96.384(h) and 96.386(g));

(6) A statement that the unit may withdraw from the CAIR NO_X Ozone Season Trading Program only in accordance with § 96.386; and

(7) A statement that the unit is subject to, and the owners and operators of the unit must comply with, the requirements of § 96.387.

(b) Each CAIR opt-in permit is deemed to incorporate automatically the definitions of terms under § 96.302 and, upon recordation by the Administrator under subpart FFFF or GGGG of this part or this subpart, every allocation, transfer, or deduction of CAIR NO_X Ozone Season allowances to or from the compliance account of the source that includes a CAIR NO_X Ozone Season opt-in unit covered by the CAIR opt-in permit.

(c) The CAIR opt-in permit shall be included, in a format specified by the permitting authority, in the CAIR permit for the source where the CAIR NO_X Ozone Season opt-in unit is located and in a title V operating permit or other federally enforceable permit for the source.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25396, Apr. 28, 2006]

§ 96.386 Withdrawal from CAIR NO_X Ozone Season Trading Program.

Except as provided under paragraph (g) of this section, a CAIR NO_X Ozone Season opt-in unit may withdraw from the CAIR NO_X Ozone Season Trading Program, but only if the permitting authority issues a notification to the CAIR designated representative of the CAIR NO_X Ozone Season opt-in unit of the acceptance of the withdrawal of the CAIR NO_X Ozone Season opt-in unit in accordance with paragraph (d) of this section.

(a) *Requesting withdrawal.* In order to withdraw a CAIR NO_X Ozone Season opt-on unit from the CAIR NO_X Ozone Season Trading Program, the CAIR designated representative of the CAIR NO_X Ozone Season opt-in unit shall submit to the permitting authority a request to withdraw effective as of midnight of September 30 of a specified calendar year, which date must be at least 4 years after September 30 of the year of entry into the CAIR NO_X Ozone Season Trading Program under

§ 96.384(g). The request must be submitted no later than 90 days before the requested effective date of withdrawal.

(b) *Conditions for withdrawal.* Before a CAIR NO_X Ozone Season opt-in unit covered by a request under paragraph (a) of this section may withdraw from the CAIR NO_X Ozone Season Trading Program and the CAIR opt-in permit may be terminated under paragraph (e) of this section, the following conditions must be met:

(1) For the control period ending on the date on which the withdrawal is to be effective, the source that includes the CAIR NO_X Ozone Season opt-in unit must meet the requirement to hold CAIR NO_X Ozone Season allowances under § 96.306(c) and cannot have any excess emissions.

(2) After the requirement for withdrawal under paragraph (b)(1) of this section is met, the Administrator will deduct from the compliance account of the source that includes the CAIR NO_X Ozone Season opt-in unit CAIR NO_X Ozone Season allowances equal in amount to and allocated for the same or a prior control period as any CAIR NO_X Ozone Season allowances allocated to the CAIR NO_X Ozone Season opt-in unit under § 96.388 for any control period for which the withdrawal is to be effective. If there are no remaining CAIR NO_X Ozone Season units at the source, the Administrator will close the compliance account, and the owners and operators of the CAIR NO_X Ozone Season opt-in unit may submit a CAIR NO_X Ozone Season allowance transfer for any remaining CAIR NO_X Ozone Season allowances to another CAIR NO_X Ozone Season Allowance Tracking System in accordance with subpart GGGG of this part.

(c) *Notification.* (1) After the requirements for withdrawal under paragraphs (a) and (b) of this section are met (including deduction of the full amount of CAIR NO_X Ozone Season allowances required), the permitting authority will issue a notification to the CAIR designated representative of the CAIR NO_X Ozone Season opt-in unit of the acceptance of the withdrawal of the CAIR NO_X Ozone Season opt-in unit as of midnight on September 30 of the calendar year for which the withdrawal was requested.

(2) If the requirements for withdrawal under paragraphs (a) and (b) of this section are not met, the permitting authority will issue a notification to the CAIR designated representative of the CAIR NO_X Ozone Season opt-in unit that the CAIR NO_X Ozone Season opt-in unit's request to withdraw is denied. Such CAIR NO_X Ozone Season opt-in unit shall continue to be a CAIR NO_X Ozone Season opt-in unit.

(d) *Permit amendment.* After the permitting authority issues a notification under paragraph (c)(1) of this section that the requirements for withdrawal have been met, the permitting authority will revise the CAIR permit covering the CAIR NO_X Ozone Season opt-in unit to terminate the CAIR opt-in permit for such unit as of the effective date specified under paragraph (c)(1) of this section. The unit shall continue to be a CAIR NO_X Ozone Season opt-in unit until the effective date of the termination and shall comply with all requirements under the CAIR NO_X Ozone Season Trading Program concerning any control periods for which the unit is a CAIR NO_X Ozone Season opt-in unit, even if such requirements arise or must be complied with after the withdrawal takes effect.

(e) *Reapplication upon failure to meet conditions of withdrawal.* If the permitting authority denies the CAIR NO_X Ozone Season opt-in unit's request to withdraw, the CAIR designated representative may submit another request to withdraw in accordance with paragraphs (a) and (b) of this section.

(f) *Ability to reapply to the CAIR NO_X Ozone Season Trading Program.* Once a CAIR NO_X Ozone Season opt-in unit withdraws from the CAIR NO_X Ozone Season Trading Program and its CAIR opt-in permit is terminated under this section, the CAIR designated representative may not submit another application for a CAIR opt-in permit under § 96.383 for such CAIR NO_X Ozone Season opt-in unit before the date that is 4 years after the date on which the withdrawal became effective. Such new application for a CAIR opt-in permit will be treated as an initial application for a CAIR opt-in permit under § 96.384.

(g) *Inability to withdraw.* Notwithstanding paragraphs (a) through (f) of this section, a CAIR NO_X Ozone Season

opt-in unit shall not be eligible to withdraw from the CAIR NO_X Ozone Season Trading Program if the CAIR designated representative of the CAIR NO_X Ozone Season opt-in unit requests, and the permitting authority issues a CAIR opt-in permit providing for, allocation to the CAIR NO_X Ozone Season opt-in unit of CAIR NO_X Ozone Season allowances under § 96.388(c).

[70 FR 25382, May 12, 2005, as amended at 71 FR 25396, Apr. 28, 2006]

§ 96.387 Change in regulatory status.

(a) *Notification.* If a CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 96.304, then the CAIR designated representative shall notify in writing the permitting authority and the Administrator of such change in the CAIR NO_X Ozone Season opt-in unit's regulatory status, within 30 days of such change.

(b) *Permitting authority's and Administrator's actions.* (1) If a CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 96.304, the permitting authority will revise the CAIR NO_X Ozone Season opt-in unit's CAIR opt-in permit to meet the requirements of a CAIR permit under § 96.323, and remove the CAIR opt-in permit provisions, as of the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 96.304.

(2)(i) The Administrator will deduct from the compliance account of the source that includes the CAIR NO_X Ozone Season opt-in unit that becomes a CAIR NO_X Ozone Season unit under § 96.304, CAIR NO_X Ozone Season allowances equal in amount to and allocated for the same or a prior control period as:

(A) Any CAIR NO_X Ozone Season allowances allocated to the CAIR NO_X Ozone Season opt-in unit under § 96.388 for any control period after the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 96.304; and

(B) If the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 96.304 is not September 30, the CAIR NO_X Ozone Season allowances allocated to the CAIR NO_X Ozone Season opt-in unit under § 96.388 for the control period that includes the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 96.304, multiplied by the ratio of the number of days, in the control period, starting with the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 96.304 divided by the total number of days in the control period and rounded to the nearest whole allowance as appropriate.

(ii) The CAIR designated representative shall ensure that the compliance account of the source that includes the CAIR NO_X Ozone Season opt-in unit that becomes a CAIR NO_X Ozone Season unit under § 96.304 contains the CAIR NO_X Ozone Season allowances necessary for completion of the deduction under paragraph (b)(2)(i) of this section.

(3)(i) For every control period after the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 96.304, the CAIR NO_X Ozone Season opt-in unit will be allocated CAIR NO_X Ozone Season allowances under § 96.342.

(ii) If the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 96.304 is not September 30, the following amount of CAIR NO_X Ozone Season allowances will be allocated to the CAIR NO_X Ozone Season opt-in unit (as a CAIR NO_X Ozone Season unit) under § 96.342 for the control period that includes the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 96.304:

(A) The amount of CAIR NO_X Ozone Season allowances otherwise allocated to the CAIR NO_X Ozone Season opt-in unit (as a CAIR NO_X Ozone Season unit) under § 96.342 for the control period multiplied by;

(B) The ratio of the number of days, in the control period, starting with the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 96.304, divided by the total number of days in the control period; and

(C) Rounded to the nearest whole allowance as appropriate.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25396, Apr. 28, 2006; 71 FR 74794, Dec. 13, 2006]

§ 96.388 CAIR NO_X Ozone Season allowance allocations to CAIR NO_X Ozone Season opt-in units.

(a) *Timing requirements.* (1) When the CAIR opt-in permit is issued under § 96.384(e), the permitting authority will allocate CAIR NO_X Ozone Season allowances to the CAIR NO_X Ozone Season opt-in unit, and submit to the Administrator the allocation for the control period in which a CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program under § 96.384(g), in accordance with paragraph (b) or (c) of this section.

(2) By no later than July 31 of the control period after the control period in which a CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program under § 96.384(g) and July 31 of each year thereafter, the permitting authority will allocate CAIR NO_X Ozone Season allowances to the CAIR NO_X Ozone Season opt-in unit, and submit to the Administrator the allocation for the control period that includes such submission deadline and in which the unit is a CAIR NO_X Ozone Season opt-in unit, in accordance with paragraph (b)or (c) of this section.

(b) *Calculation of allocation.* For each control period for which a CAIR NO_X Ozone Season opt-in unit is to be allocated CAIR NO_X Ozone Season allowances, the permitting authority will allocate in accordance with the following procedures:

(1) The heat input (in mmBtu) used for calculating the CAIR NO_X Ozone Season allowance allocation will be the lesser of:

(i) The CAIR NO_X Ozone Season opt-in unit's baseline heat input determined under § 96.384(c); or

(ii) The CAIR NO_X Ozone Season opt-in unit's heat input, as determined in accordance with subpart HHHH of this part, for the immediately prior control period, except when the allocation is being calculated for the control period in which the CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program under § 96.384(g).

(2) The NO_X emission rate (in lb/mmBtu) used for calculating CAIR NO_X Ozone Season allowance allocations will be the lesser of:

(i) The CAIR NO_X Ozone Season opt-in unit's baseline NO_X emissions rate (in lb/mmBtu) determined under § 96.384(d) and multiplied by 70 percent; or

(ii) The most stringent State or Federal NO_X emissions limitation applicable to the CAIR NO_X Ozone Season opt-in unit at any time during the control period for which CAIR NO_X Ozone Season allowances are to be allocated.

(3) The permitting authority will allocate CAIR NO_X Ozone Season allowances to the CAIR NO_X Ozone Season opt-in unit in an amount equaling the heat input under paragraph (b)(1) of this section, multiplied by the NO_X emission rate under paragraph (b)(2) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole allowance as appropriate.

(c) Notwithstanding paragraph (b) of this section and if the CAIR designated representative requests, and the permitting authority issues a CAIR opt-in permit'' (based on a demonstration of the intent to repower stated under § 96.383(a)(5)) providing for, allocation to a CAIR NO_X Ozone Season opt-in unit of CAIR NO_X Ozone Season allowances under this paragraph (subject to the conditions in §§ 96.384(h) and 96.386(g)), the permitting authority will allocate to the CAIR NO_X Ozone Season opt-in unit as follows:

(1) For each control period in 2009 through 2014 for which the CAIR NO_X Ozone Season opt-in unit is to be allocated CAIR NO_X Ozone Season allowances,

(i) The heat input (in mmBtu) used for calculating CAIR NO_X Ozone Season allowance allocations will be determined as described in paragraph (b)(1) of this section.

(ii) The NO_X emission rate (in lb/mmBtu) used for calculating CAIR NO_X Ozone Season allowance allocations will be the lesser of:

(A) The CAIR NO_X Ozone Season opt-in unit's baseline NO_X emissions rate

(in lb/mmBtu) determined under § 96.384(d); or

(B) The most stringent State or Federal NO_X emissions limitation applicable to the CAIR NO_X Ozone Season opt-in unit at any time during the control period in which the CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program under § 96.384(g).

(iii) The permitting authority will allocate CAIR NO_X Ozone Season allowances to the CAIR NO_X Ozone Season opt-in unit in an amount equaling the heat input under paragraph (c)(1)(i) of this section, multiplied by the NO_X emission rate under paragraph (c)(1)(ii) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole allowance as appropriate.

(2) For each control period in 2015 and thereafter for which the CAIR NO_X Ozone Season opt-in unit is to be allocated CAIR NO_X Ozone Season allowances,

(i) The heat input (in mmBtu) used for calculating the CAIR NO_X Ozone Season allowance allocations will be determined as described in paragraph (b)(1) of this section.

(ii) The NO_X emission rate (in lb/mmBtu) used for calculating the CAIR NO_X Ozone Season allowance allocation will be the lesser of:

(A) 0.15 lb/mmBtu;

(B) The CAIR NO_X Ozone Season opt-in unit's baseline NO_X emissions rate (in lb/mmBtu) determined under § 96.384(d); or

(C) The most stringent State or Federal NO_X emissions limitation applicable to the CAIR NO_X Ozone Season opt-in unit at any time during the control period for which CAIR NO_X Ozone Season allowances are to be allocated.

(iii) The permitting authority will allocate CAIR NO_X Ozone Season allowances to the CAIR NO_X Ozone Season opt-in unit in an amount equaling the heat input under paragraph (c)(2)(i) of this section, multiplied by the NO_X emission rate under paragraph (c)(2)(ii) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole allowance as appropriate.

(d) *Recordation.* (1) The Administrator will record, in the compliance account of the source that includes the CAIR NO_X Ozone Season opt-in unit, the CAIR NO_X Ozone Season allowances allocated by the permitting authority to the CAIR NO_X Ozone Season opt-in unit under paragraph (a)(1) of this section.

(2) By September 1, of the control period in which a CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program under § 96.384(g), and September 1 of each year thereafter, the Administrator will record, in the compliance account of the source that includes the CAIR NO_X Ozone Season opt-in unit, the CAIR NO_X Ozone Season allowances allocated by the permitting authority to the CAIR NO_X Ozone Season opt-in unit under paragraph (a)(2) of this section.

[70 FR 25382, May 12, 2005, as amended at 71 FR 25396, Apr. 28, 2006]

PART 97—FEDERAL NO_X BUDGET TRADING PROGRAM AND CAIR NO_X AND SO_2 TRADING PROGRAMS

Subpart A—NO_X Budget Trading Program General Provisions

Sec.
97.1 Purpose.
97.2 Definitions.
97.3 Measurements, abbreviations, and acronyms.
97.4 Applicability.
97.5 Retired unit exemption.
97.6 Standard requirements.
97.7 Computation of time.

Subpart B—NO_X Authorized Account Representative for NO_X Budget Sources

97.10 Authorization and responsibilities of NO_X authorized account representative.
97.11 Alternate NO_X authorized account representative.
97.12 Changing NO_X authorized account representative and alternate NO_X authorized account representative; changes in owners and operators.
97.13 Account certificate of representation.
97.14 Objections concerning NO_X authorized account representative.

Subpart C—Permits

97.20 General NO_X Budget Trading Program permit requirements.
97.21 Submission of NO_X Budget permit applications.
97.22 Information requirements for NO_X Budget permit applications.
97.23 NO_X Budget permit contents.
97.24 NO_X Budget permit revisions.

Subpart D—Compliance Certification

97.30 Compliance certification report.
97.31 Administrator's action on compliance certifications.

Subpart E—NO_X Allowance Allocations

97.40 Trading program budget.
97.41 Timing requirements for NO_X allowance allocations.
97.42 NO_X allowance allocations.
97.43 Compliance supplement pool.

Subpart F—NO_X Allowance Tracking System

97.50 NO_X Allowance Tracking System accounts.
97.51 Establishment of accounts.
97.52 NO_X Allowance Tracking System responsibilities of NO_X authorized account representative.
97.53 Recordation of NO_X allowance allocations.
97.54 Compliance.
97.55 Banking.
97.56 Account error.
97.57 Closing of general accounts.

Subpart G—NO_X Allowance Transfers

97.60 Submission of NO_X allowance transfers.
97.61 EPA recordation.
97.62 Notification.

Subpart H—Monitoring and Reporting

97.70 General requirements.
97.71 Initial certification and recertification procedures.
97.72 Out of control periods.
97.73 Notifications.
97.74 Recordkeeping and reporting.
97.75 Petitions.
97.76 Additional requirements to provide heat input data.

Subpart I—Individual Unit Opt-ins

97.80 Applicability.
97.81 General.
97.82 NO_X authorized account representative.
97.83 Applying for NO_X Budget opt-in permit.
97.84 Opt-in process.
97.85 NO_X Budget opt-in permit contents.
97.86 Withdrawal from NO_X Budget Trading Program.
97.87 Change in regulatory status.
97.88 NO_X allowance allocations to opt-in units.

Subpart J—Appeal Procedures

97.90 Appeal procedures.

Subpart AA—CAIR NO_X Annual Trading Program General Provisions

97.101 Purpose.
97.102 Definitions.
97.103 Measurements, abbreviations, and acronyms.
97.104 Applicability.
97.105 Retired unit exemption.
97.106 Standard requirements.
97.107 Computation of time.
97.108 Appeal procedures.

Subpart BB—CAIR Designated Representative for CAIR NO_X Sources

97.110 Authorization and responsibilities of CAIR designated representative.
97.111 Alternate CAIR designated representative.
97.112 Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.
97.113 Certificate of representation.
97.114 Objections concerning CAIR designated representative.
97.115 Delegation by CAIR designated representative and alternate CAIR designated representative.

Subpart CC—Permits

97.120 General CAIR NO_X Annual Trading Program permit requirements.
97.121 Submission of CAIR permit applications.
97.122 Information requirements for CAIR permit applications.
97.123 CAIR permit contents and term.
97.124 CAIR permit revisions.

Subpart DD [Reserved]

Subpart EE—CAIR NO_X Allowance Allocations

97.140 State trading budgets.
97.141 Timing requirements for CAIR NO_X allowance allocations.
97.142 CAIR NO_X allowance allocations.
97.143 Compliance supplement pool.
97.144 Alternative of allocation of CAIR NO_X allowances and compliance supplement pool by permitting authority.

APPENDIX A TO SUBPART EE OF PART 97—STATES WITH APPROVED STATE IMPLEMENTATION PLAN REVISIONS CONCERNING ALLOCATIONS

Subpart FF— CAIR NO_X Allowance Tracking System

97.150 [Reserved]
97.151 Establishment of accounts.
97.152 Responsibilities of CAIR authorized account representative.

97.153 Recordation of CAIR NO_X allowance allocations.
97.154 Compliance with CAIR NO_X emissions limitation.
97.155 Banking.
97.156 Account error.
97.157 Closing of general accounts.

Subpart GG—CAIR NO_X Allowance Transfers

97.160 Submission of CAIR NO_X allowance transfers.
97.161 EPA recordation.
97.162 Notification.

Subpart HH—Monitoring and Reporting

97.170 General requirements.
97.171 Initial certification and recertification procedures.
97.172 Out of control periods.
97.173 Notifications.
97.174 Recordkeeping and reporting.
97.175 Petitions.

Subpart II—CAIR NO_X Opt-in Units

97.180 Applicability.
97.181 General.
97.182 CAIR designated representative.
97.183 Applying for CAIR opt-in permit.
97.184 Opt-in process.
97.185 CAIR opt-in permit contents.
97.186 Withdrawal from CAIR NO_X Annual Trading Program.
97.187 Change in regulatory status.
97.188 CAIR NO_X allowance allocations to CAIR NO_X opt-in units.
APPENDIX A TO SUBPART II OF PART 97—STATES WITH APPROVED STATE IMPLEMENTATION PLAN REVISIONS CONCERNING CAIR NO_X OPT-IN UNITS

Subpart AAA—CAIR SO_2 Trading Program General Provisions

97.201 Purpose.
97.202 Definitions.
97.203 Measurements, abbreviations, and acronyms.
97.204 Applicability.
97.205 Retired unit exemption.
97.206 Standard requirements.
97.207 Computation of time.
97.208 Appeal procedures.

Subpart BBB—CAIR Designated Representative for CAIR SO_2 Sources

97.210 Authorization and responsibilities of CAIR designated representative.
97.211 Alternate CAIR designated representative.
97.212 Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.
97.213 Certificate of representation.
97.214 Objections concerning CAIR designated representative.
97.215 Delegation by CAIR designated representative and alternate CAIR designated representative.

Subpart CCC—Permits

97.220 General CAIR SO_2 Trading Program permit requirements.
97.221 Submission of CAIR permit applications.
97.222 Information requirements for CAIR permit applications.
97.223 CAIR permit contents and term.
97.224 CAIR permit revisions.

Subparts DDD–EEE [Reserved]

Subpart FFF—CAIR SO_2 Allowance Tracking System

97.250 [Reserved]
97.251 Establishment of accounts.
97.252 Responsibilities of CAIR authorized account representative.
97.253 Recordation of CAIR SO_2 allowances.
97.254 Compliance with CAIR SO_2 emissions limitation.
97.255 Banking.
97.256 Account error.
97.257 Closing of general accounts.

Subpart GGG—CAIR SO_2 Allowance Transfers

97.260 Submission of CAIR SO_2 allowance transfers.
97.261 EPA recordation.
97.262 Notification.

Subpart HHH—Monitoring and Reporting

97.270 General requirements.
97.271 Initial certification and recertification procedures.
97.272 Out of control periods.
97.273 Notifications.
97.274 Recordkeeping and reporting.
97.275 Petitions.

Subpart III—CAIR SO_2 Opt-in Units

97.280 Applicability.
97.281 General.
97.282 CAIR designated representative.
97.283 Applying for CAIR opt-in permit.
97.284 Opt-in process.
97.285 CAIR opt-in permit contents.
97.286 Withdrawal from CAIR SO_2 Trading Program.
97.287 Change in regulatory status.
97.288 CAIR SO_2 allowance allocations to CAIR SO_2 opt-in units.

APPENDIX A TO SUBPART III OF PART 97—STATES WITH APPROVED STATE IMPLEMENTATION PLAN REVISIONS CONCERNING CAIR SO_2 OPT-IN UNITS

Subpart AAAA—CAIR NO_X Ozone Season Trading Program General Provisions

97.301 Purpose.
97.302 Definitions.
97.303 Measurements, abbreviations, and acronyms.
97.304 Applicability.
97.305 Retired unit exemption.
97.306 Standard requirements.
97.307 Computation of time.
97.308 Appeal procedures.

APPENDIX A TO SUBPART AAAA OF PART 97—STATES WITH APPROVED STATE IMPLEMENTATION PLAN REVISIONS CONCERNING APPLICABILITY

Subpart BBBB—CAIR Designated Representative for CAIR NO_X Ozone Season Sources

97.310 Authorization and responsibilities of CAIR designated representative.
97.311 Alternate CAIR designated representative.
97.312 Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.
97.313 Certificate of representation.
97.314 Objections concerning CAIR designated representative.
97.315 Delegation by CAIR designated representative and alternate CAIR designated representative.

Subpart CCCC—Permits

97.320 General CAIR NO_X Ozone Season Trading Program permit requirements.
97.321 Submission of CAIR permit applications.
97.322 Information requirements for CAIR permit applications.
97.323 CAIR permit contents and term.
97.324 CAIR permit revisions.

Subpart DDDD [Reserved]

Subpart EEEE—CAIR NO_X Ozone Season Allowance Allocations

97.340 State trading budgets.
97.341 Timing requirements for CAIR NO_X Ozone Season allowance allocations.
97.342 CAIR NO_X Ozone Season allowance allocations.
97.343 Alternative of allocation of CAIR NO_X Ozone Season allowances by permitting authority.

APPENDIX A TO SUBPART EEEE OF PART 97—STATES WITH APPROVED STATE IMPLEMENTATION PLAN REVISIONS CONCERNING ALLOCATIONS

Subpart FFFF—CAIR NO_X Ozone Season Allowance Tracking System

97.350 [Reserved]
97.351 Establishment of accounts.
97.352 Responsibilities of CAIR authorized account representative.
97.353 Recordation of CAIR NO_X Ozone Season allowance allocations.
97.354 Compliance with CAIR NO_X emissions limitation.
97.355 Banking.
97.356 Account error.
97.357 Closing of general accounts.

Subpart GGGG—CAIR NO_X Ozone Season Allowance Transfers

97.360 Submission of CAIR NO_X Ozone Season allowance transfers.
97.361 EPA recordation.
97.362 Notification.

Subpart HHHH—Monitoring and Reporting

97.370 General requirements.
97.371 Initial certification and recertification procedures.
97.372 Out of control periods.
97.373 Notifications.
97.374 Recordkeeping and reporting.
97.375 Petitions.

Subpart IIII—CAIR NO_X Ozone Season Opt-in Units

97.380 Applicability.
97.381 General.
97.382 CAIR designated representative.
97.383 Applying for CAIR opt-in permit.
97.384 Opt-in process.
97.385 CAIR opt-in permit contents.
97.386 Withdrawal from CAIR NO_X Ozone Season Trading Program.
97.387 Change in regulatory status.
97.388 CAIR NO_X Ozone Season allowance allocations to CAIR NO_X Ozone Season opt-in units.

APPENDIX A TO SUBPART IIII OF PART 97—STATES WITH APPROVED STATE IMPLEMENTATION PLAN REVISIONS CONCERNING CAIR NO_X OZONE SEASON OPT-IN UNITS

Subpart AAAAA—TR NO_X Annual Trading Program

97.401 Purpose.
97.402 Definitions.
97.403 Measurements, abbreviations, and acronyms.
97.404 Applicability.
97.405 Retired unit exemption.
97.406 Standard requirements.
97.407 Computation of time.

97.408 Administrative appeal procedures.
97.409 [Reserved]
97.410 State NO_X annual trading budgets, new unit set-asides, Indian country new unit set-aside, and variability limits.
97.411 Timing requirements for TR NO_X Annual allowance allocations.
97.412 TR NO_X Annual allowance allocations to new units.
97.413 Authorization of designated representative and alternate designated representative.
97.414 Responsibilities of designated representative and alternate designated representative.
97.415 Changing designated representative and alternate designated representative; changes in owners and operators.
97.416 Certificate of representation.
97.417 Objections concerning designated representative and alternate designated representative.
97.418 Delegation by designated representative and alternate designated representative.
97.419 [Reserved]
97.420 Establishment of compliance accounts and general accounts.
97.421 Recordation of TR NO_X Annual allowance allocations.
97.422 Submission of TR NO_X Annual allowance transfers.
97.423 Recordation of TR NO_X Annual allowance transfers.
97.424 Compliance with TR NO_X Annual emissions limitation.
97.425 Compliance with TR NO_X Annual assurance provisions.
97.426 Banking.
97.427 Account error.
97.428 Administrator's action on submissions.
97.429 [Reserved]
97.430 General monitoring, recordkeeping, and reporting requirements.
97.431 Initial monitoring system certification and recertification procedures.
97.432 Monitoring system out-of-control periods.
97.433 Notifications concerning monitoring.
97.434 Recordkeeping and reporting.
97.435 Petitions for alternatives to monitoring, recordkeeping, or reporting requirements.

Subpart BBBBB—TR NO_X Ozone Season Trading Program

97.501 Purpose.
97.502 Definitions.
97.503 Measurements, abbreviations, and acronyms.
97.504 Applicability.
97.505 Retired unit exemption.
97.506 Standard requirements.
97.507 Computation of time.
97.508 Administrative appeal procedures.
97.509 [Reserved]
97.510 State NO_X ozone season trading budgets, new unit set-asides, Indian country new unit set-aside, and variability limits.
97.511 Timing requirements for TR NO_X Ozone Season allowance allocations.
97.512 TR NO_X Ozone Season allowance allocations to new units.
97.513 Authorization of designated representative and alternate designated representative.
97.514 Responsibilities of designated representative and alternate designated representative.
97.515 Changing designated representative and alternate designated representative; changes in owners and operators.
97.516 Certificate of representation.
97.517 Objections concerning designated representative and alternate designated representative.
97.518 Delegation by designated representative and alternate designated representative.
97.519 [Reserved]
97.520 Establishment of compliance accounts and general accounts.
97.521 Recordation of TR NO_X Ozone Season allowance allocations.
97.522 Submission of TR NO_X Ozone Season allowance transfers.
97.523 Recordation of TR NO_X Ozone Season allowance transfers.
97.524 Compliance with TR NO_X Ozone Season emissions limitation.
97.525 Compliance with TR NO_X Ozone Season assurance provisions.
97.526 Banking.
97.527 Account error.
97.528 Administrator's action on submissions.
97.529 [Reserved]
97.530 General monitoring, recordkeeping, and reporting requirements.
97.531 Initial monitoring system certification and recertification procedures.
97.532 Monitoring system out-of-control periods.
97.533 Notifications concerning monitoring.
97.534 Recordkeeping and reporting.
97.535 Petitions for alternatives to monitoring, recordkeeping, or reporting requirements.

Subpart CCCCC—TR SO_2 Group 1 Trading Program

97.601 Purpose.
97.602 Definitions.
97.603 Measurements, abbreviations, and acronyms.
97.604 Applicability.
97.605 Retired unit exemption.
97.606 Standard requirements.
97.607 Computation of time.
97.608 Administrative appeal procedures.

97.609 [Reserved]
97.610 State SO_2 Group 1 trading budgets, new unit set-asides, Indian country new unit set-aside, and variability limits.
97.611 Timing requirements for TR SO_2 Group 1 allowance allocations.
97.612 TR SO_2 Group 1 allowance allocations to new units.
97.613 Authorization of designated representative and alternate designated representative.
97.614 Responsibilities of designated representative and alternate designated representative.
97.615 Changing designated representative and alternate designated representative; changes in owners and operators.
97.616 Certificate of representation.
97.617 Objections concerning designated representative and alternate designated representative.
97.618 Delegation by designated representative and alternate designated representative.
97.619 [Reserved]
97.620 Establishment of compliance accounts and general accounts.
97.621 Recordation of TR SO_2 Group 1 allowance allocations.
97.622 Submission of TR SO_2 Group 1 allowance transfers.
97.623 Recordation of TR SO_2 Group 1 allowance transfers.
97.624 Compliance with TR SO_2 Group 1 emissions limitation.
97.625 Compliance with TR SO_2 Group 1 assurance provisions.
97.626 Banking.
97.627 Account error.
97.628 Administrator's action on submissions.
97.629 [Reserved]
97.630 General monitoring, recordkeeping, and reporting requirements.
97.631 Initial monitoring system certification and recertification procedures.
97.632 Monitoring system out-of-control periods.
97.633 Notifications concerning monitoring.
97.634 Recordkeeping and reporting.
97.635 Petitions for alternatives to monitoring, recordkeeping, or reporting requirements.

Subpart DDDDD—TR SO_2 Group 2 Trading Program

97.701 Purpose.
97.702 Definitions.
97.703 Measurements, abbreviations, and acronyms.
97.704 Applicability.
97.705 Retired unit exemption.
97.706 Standard requirements.
97.707 Computation of time.
97.708 Administrative appeal procedures.
97.709 [Reserved]
97.710 State SO_2 Group 2 trading budgets, new unit set-asides, Indian country new unit set-aside, and variability limits.
97.711 Timing requirements for TR SO_2 Group 2 allowance allocations.
97.712 TR SO_2 Group 2 allowance allocations to new units.
97.713 Authorization of designated representative and alternate designated representative.
97.714 Responsibilities of designated representative and alternate designated representative.
97.715 Changing designated representative and alternate designated representative; changes in owners and operators.
97.716 Certificate of representation.
97.717 Objections concerning designated representative and alternate designated representative.
97.718 Delegation by designated representative and alternate designated representative.
97.719 [Reserved]
97.720 Establishment of compliance accounts and general accounts.
97.721 Recordation of TR SO_2 Group 2 allowance allocations.
97.722 Submission of TR SO_2 Group 2 allowance transfers.
97.723 Recordation of TR SO_2 Group 2 allowance transfers.
97.724 Compliance with TR SO_2 Group 2 emissions limitation.
97.725 Compliance with TR SO_2 Group 2 assurance provisions.
97.726 Banking.
97.727 Account error.
97.728 Administrator's action on submissions.
97.729 [Reserved]
97.730 General monitoring, recordkeeping, and reporting requirements.
97.731 Initial monitoring system certification and recertification procedures.
97.732 Monitoring system out-of-control periods.
97.733 Notifications concerning monitoring.
97.734 Recordkeeping and reporting.
97.735 Petitions for alternatives to monitoring, recordkeeping, or reporting requirements.

APPENDIX A TO PART 97—FINAL SECTION 126 RULE: EGU ALLOCATIONS, 2003–2007
APPENDIX B TO PART 97—FINAL SECTION 126 RULE: NON-EGU ALLOCATIONS, 2003–2007
APPENDIX C TO PART 97—FINAL SECTION 126 RULE: TRADING BUDGET, 2003–2007
APPENDIX D TO PART 97—FINAL SECTION 126 RULE: STATE COMPLIANCE SUPPLEMENT POOLS FOR THE SECTION 126 FINAL RULE (TONS)

AUTHORITY: 42 U.S.C. 7401, 7403, 7410, 7426, 7601, and 7651, *et seq*.

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Subpart A—NO_X Budget Trading Program General Provisions

§ 97.1 Purpose.

This part establishes general provisions and the applicability, permitting, allowance, excess emissions, monitoring, and opt-in provisions for the federal NO_X Budget Trading Program, under section 126 of the CAA and § 52.34 of this chapter, as a means of mitigating the interstate transport of ozone and nitrogen oxides, an ozone precursor.

§ 97.2 Definitions.

The terms used in this part shall have the meanings set forth in this section as follows:

Account number means the identification number given by the Administrator to each NO_X Allowance Tracking System account.

Acid Rain emissions limitation means, as defined in § 72.2 of this chapter, a limitation on emissions of sulfur dioxide or nitrogen oxides under the Acid Rain Program under title IV of the Clean Air Act.

Administrator means the Administrator of the United States Environmental Protection Agency or the Administrator's duly authorized representative.

Allocate or *allocation* means, with regard to NO_X allowances, the determination by the Administrator of the number of NO_X allowances to be initially credited to a NO_X Budget unit or an allocation set-aside.

Automated data acquisition and handling system or *DAHS* means that component of the CEMS, or other emissions monitoring system approved for use under subpart H of this part, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by subpart H of this part.

Boiler means an enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

Clean Air Act means the Clean Air Act, 42 U.S.C. 7401 *et seq*.

Combined cycle system means a system comprised of one or more combustion turbines, heat recovery steam generators, and steam turbines configured to improve overall efficiency of electricity generation or steam production.

Combustion turbine means an enclosed fossil or other fuel-fired device that is comprised of a compressor, a combustor, and a turbine, and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine.

Commence commercial operation means, with regard to a unit that serves a generator, to have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation. Except as provided in § 97.4(b), § 97.5, or subpart I of this part, for a unit that is a NO_X Budget unit under § 97.4(a) on the date the unit commences commercial operation, such date shall remain the unit's date of commencement of commercial operation even if the unit is subsequently modified, reconstructed, or repowered. Except as provided in § 97.4(b), § 97.5, or subpart I of this part, for a unit that is not a NO_X Budget unit under § 97.4(a) on the date the unit commences commercial operation, the date the unit becomes a NO_X Budget unit under § 97.4(a) shall be the unit's date of commencement of commercial operation.

Commence operation means to have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber. Except as provided in § 97.4(b), § 97.5, or subpart I of this part for a unit that is a NO_X Budget unit under § 97.4(a) on the date of commencement of operation, such date shall remain the unit's date of commencement of operation even if the unit is subsequently modified, reconstructed, or repowered. Except as provided in § 97.4(b), § 97.5, or subpart I of this part, for a unit that is not a NO_X Budget unit under § 97.4(a) on the date

of commencement of operation, the date the unit becomes a NO_X Budget unit under §97.4(a) shall be the unit's date of commencement of operation.

Common stack means a single flue through which emissions from two or more units are exhausted.

Compliance account means a NO_X Allowance Tracking System account, established by the Administrator for a NO_X Budget unit under subpart F of this part, in which the NO_X allowance allocations for the unit are initially recorded and in which are held NO_X allowances available for use by the unit for a control period for the purpose of meeting the unit's NO_X Budget emissions limitation.

Continuous emission monitoring system or *CEMS* means the equipment required under subpart H of this part to sample, analyze, measure, and provide, by means of readings taken at least once every 15 minutes (using an automated data acquisition and handling system (DAHS)), a permanent record of nitrogen oxides (NO_X) emissions, stack gas volumetric flow rate or stack gas moisture content (as applicable), in a manner consistent with part 75 of this chapter. The following are the principal types of continuous emission monitoring systems required under subpart H of this part:

(1) A flow monitoring system, consisting of a stack flow rate monitor and an automated DAHS. A flow monitoring system provides a permanent, continuous record of stack gas volumetric flow rate, in units of standard cubic feet per hour (scfh);

(2) A nitrogen oxides concentration monitoring system, consisting of a NO_X pollutant concentration monitor and an automated DAHS. A NO_X concentration monitoring system provides a permanent, continuous record of NO_X emissions in units of parts per million (ppm);

(3) A nitrogen oxides emission rate (or NO_X-diluent) monitoring system, consisting of a NO_X pollutant concentration monitor, a diluent gas (CO_2 or O_2) monitor, and an automated DAHS. A NO_X concentration monitoring system provides a permanent, continuous record of: NO_X concentration in units of parts per million (ppm), diluent gas concentration in units of percent O_2 or CO_2 (percent O_2 or CO_2), and NO_X emission rate in units of pounds per million British thermal units (lb/mmBtu); and

(4) A moisture monitoring system, as defined in §75.11(b)(2) of this chapter. A moisture monitoring system provides a permanent, continuous record of the stack gas moisture content, in units of percent H_2O (percent H_2O).

Control period means the period beginning May 1 of a year and ending on September 30 of the same year, inclusive.

Electricity for sale under firm contract to the grid means electricity for sale where the capacity involved is intended to be available at all times during the period covered by a guaranteed commitment to deliver, even under adverse conditions.

Emissions means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the NO_X authorized account representative and as determined by the Administrator in accordance with subpart H of this part.

Energy Information Administration means the Energy Information Administration of the United States Department of Energy.

Excess emissions means any tonnage of nitrogen oxides emitted by a NO_X Budget unit during a control period that exceeds the NO_X Budget emissions limitation for the unit.

Fossil fuel means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.

Fossil fuel fired means, with regard to a unit:

(1) For units that commenced operation before January 1, 1996, the combustion of fossil fuel, alone or in combination with any other fuel, where fossil fuel actually combusted comprises more than 50 percent of the annual heat input on a Btu basis during 1995, or, if a unit had no heat input in 1995, during the last year of operation of the unit prior to 1995;

(2) For units that commenced operation on or after January 1, 1996 and before January 1, 1997, the combustion of fossil fuel, alone or in combination with any other fuel, where fossil fuel

actually combusted comprises more than 50 percent of the annual heat input on a Btu basis during 1996; or

(3) For units that commence operation on or after January 1, 1997:

(i) The combination of fossil fuel, alone or in combustion with any other fuel, where fossil fuel actually combusted comprises more than 50 percent of the annual heat input on a Btu basis during any year; or

(ii) The combination of fossil fuel, alone or in combination with any other fuel, where fossil fuel is projected to comprise more than 50 percent of the annual heat input on a Btu basis during any year, provided that the unit shall be ''fossil fuel-fired'' as of the date, during such year, on which the unit begins combusting fossil fuel.

General account means a NO_X Allowance Tracking System account, established under subpart F of this part, that is not a compliance account or an overdraft account.

Generator means a device that produces electricity.

Heat input means, with regard to a specified period to time, the product (in mmBtu/time) of the gross calorific value of the fuel (in Btu/lb) divided by 1,000,000 Btu/mmBtu and multiplied by the fuel feed rate into a combustion device (in lb of fuel/time), as measured, recorded, and reported to the Administrator by the NO_X authorized account representative and as determined by the Administrator in accordance with subpart H of this part. Heat input does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.

Heat input rate means the amount of heat input (in mmBtu) divided by unit operating time (in hr) or, with regard to a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy from any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period equal to or greater than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input means the ability of a unit to combust a stated maximum amount of fuel per hour (in mmBtu/hr) on a steady state basis, as determined by the physical design and physical characteristics of the unit.

Maximum potential hourly heat input means an hourly heat input (in mmBtu/hr) used for reporting purposes when a unit lacks certified monitors to report heat input. If the unit intends to use appendix D of part 75 of this chapter to report heat input, this value should be calculated, in accordance with part 75 of this chapter, using the maximum fuel flow rate and the maximum gross calorific value. If the unit intends to use a flow monitor and a diluent gas monitor, this value should be reported, in accordance with part 75 of this chapter, using the maximum potential flowrate and either the maximum carbon dioxide concentration (in percent CO_2) or the minimum oxygen concentration (in percent O2).

Maximum potential NO_X emission rate means the emission rate of nitrogen oxides (in lb/mmBtu) calculated in accordance with section 3 of appendix F of part 75 of this chapter, using the maximum potential concentration of NO_X under section 2 of appendix A of part 75 of this chapter, and either the maximum oxygen concentration (in percent O2) or the minimum carbon dioxide concentration (in percent CO_2), under all operating conditions of the unit except for unit start up, shutdown, and upsets.

Maximum rated hourly heat input means a unit specific maximum hourly heat input (in mmBtu/hr) which is the higher of the manufacturer's maximum

rated hourly heat input or the highest observed hourly heat input.

Monitoring system means any monitoring system that meets the requirements of subpart H of this part, including a continuous emissions monitoring system, an excepted monitoring system, or an alternative monitoring system.

Most stringent State or Federal NO_X emissions limitation means the lowest NO_X emissions limitation (in lb/mmBtu) that is applicable to the unit under State or Federal law, regardless of the averaging period to which the emissions limitation applies.

Nameplate capacity means the maximum electrical generating output (in MWe) that a generator can sustain over a specified period of time when not restricted by seasonal or other deratings as measured in accordance with the United States Department of Energy standards.

Non-title V permit means a federally enforceable permit administered by the permitting authority pursuant to the Clean Air Act and regulatory authority under the Clean Air Act, other than title V of the Clean Air Act and part 70 or 71 of this chapter.

NO_X allowance means a limited authorization by the Administrator under the NO_X Budget Trading Program to emit up to one ton of nitrogen oxides during the control period of the specified year or of any year thereafter, except as provided under §97.54(f). No provision of the NO_X Budget Trading Program, the NO_X Budget permit application, the NO_X Budget permit, or an exemption under §97.4(b) or §97.5 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization, which does not constitute a property right. For purposes of all sections of this part except §97.40, §97.41, §97.42, §97.43, or §97.88, ''NO_X allowance'' also includes an authorization to emit up to one ton of nitrogen oxides during the control period of the specified year or of any year thereafter by the permitting authority or the Administrator in accordance with a State NO_X Budget Trading Program established, and approved and administered by the Administrator, pursuant to §51.121 of this chapter.

NO_X allowance deduction or *deduct NO_X allowances* means the permanent withdrawal of NO_X allowances by the Administrator from a NO_X Allowance Tracking System compliance account or overdraft account to account for the number of tons of NO_X emissions from a NO_X Budget unit for a control period, determined in accordance with subparts H and F of this part, or for any other NO_X allowance withdrawal requirement under this part.

NO_X Allowance Tracking System means the system by which the Administrator records allocations, deductions, and transfers of NO_X allowances under the NO_X Budget Trading Program.

NO_X Allowance Tracking System account means an account in the NO_X Allowance Tracking System established by the Administrator for purposes of recording the allocation, holding, transferring, or deducting of NO_X allowances.

NO_X allowance transfer deadline means midnight of November 30 or, if November 30 is not a business day, midnight of the first business day thereafter and is the deadline by which NO_X allowances must be submitted for recordation in a NO_X Budget unit's compliance account, or the overdraft account of the source where the unit is located, in order to meet the unit's NO_X Budget emissions limitation for the control period immediately preceding such deadline.

NO_X allowances held or *hold NO_X allowances* means the NO_X allowances recorded by the Administrator, or submitted to the Administrator for recordation, in accordance with subparts F and G of this part, in a NO_X Allowance Tracking System account.

NO_X authorized account representative means, for a NO_X Budget source or NO_X Budget unit at the source, the natural person who is authorized by the owners and operators of the source and all NO_X Budget units at the source, in accordance with subpart B of this part, to represent and legally bind each owner and operator in matters pertaining to the NO_X Budget Trading Program or, for a general account, the natural person who is authorized, in accordance with subpart F of this part, to transfer or otherwise dispose of NO_X allowances held in the general account.

NO_X Budget emissions limitation means, for a NO_X Budget unit, the tonnage equivalent of the NO_X allowances available for compliance deduction for the unit under § 97.54(a), (b), (e), and (f) in a control period adjusted by deductions of such NO_X allowances to account for actual heat input under § 97.42(e) for the control period or to account for excess emissions for a prior control period under § 97.54(d) or to account for withdrawal from the NO_X Budget Trading Program, or for a change in regulatory status, of a NO_X Budget opt-in unit under § 97.86 or § 97.87.

NO_X Budget opt-in permit means a NO_X Budget permit covering a NO_X Budget opt-in unit.

NO_X Budget opt-in unit means a unit that has been elected to become a NO_X Budget unit under the NO_X Budget Trading Program and whose NO_X Budget opt-in permit has been issued and is in effect under subpart I of this part.

NO_X Budget permit means the legally binding and federally enforceable written document, or portion of such document, issued by the permitting authority under this part, including any permit revisions, specifying the NO_X Budget Trading Program requirements applicable to a NO_X Budget source, to each NO_X Budget unit at the NO_X Budget source, and to the owners and operators and the NO_X authorized account representative of the NO_X Budget source and each NO_X Budget unit.

NO_X Budget source means a source that includes one or more NO_X Budget units.

NO_X Budget Trading Program means a multistate nitrogen oxides air pollution control and emission reduction program established by the Administrator in accordance with this part and pursuant to § 52.34 of this chapter, as a means of mitigating the interstate transport of ozone and nitrogen oxides, an ozone precursor.

NO_X Budget unit means a unit that is subject to the NO_X Budget emissions limitation under § 97.4(a) or § 97.80.

Operating means, with regard to a unit under §§ 97.22(d)(2) and 97.80, having documented heat input for more than 876 hours in the 6 months immediately preceding the submission of an application for an initial NO_X Budget permit under § 97.83(a). The unit's documented heat input will be determined in accordance with part 75 of this chapter if the unit was otherwise subject to the requirements of part 75 of this chapter during that 6-month period or will be based on the best available data reported to the Administrator for the unit if the unit was not otherwise subject to the requirements of part 75 of this chapter during that 6-month period.

Operator means any person who operates, controls, or supervises a NO_X Budget unit, a NO_X Budget source, or a unit for which an application for a NO_X Budget opt-in permit under § 97.83 is submitted and not denied or withdrawn and shall include, but not be limited to, any holding company, utility system, or plant manager of such a unit or source.

Opt-in means to be elected to become a NO_X Budget unit under the NO_X Budget Trading Program through a final, effective NO_X Budget opt-in permit under subpart I of this part.

Overdraft account means the NO_X Allowance Tracking System account, established by the Administrator under subpart F of this part, for each NO_X Budget source where there are two or more NO_X Budget units.

Owner means any of the following persons:

(1) Any holder of any portion of the legal or equitable title in a NO_X Budget unit or in a unit for which an application for a NO_X Budget opt-in permit under § 97.83 is submitted and not denied or withdrawn; or

(2) Any holder of a leasehold interest in a NO_X Budget unit or in a unit for which an application for a NO_X Budget opt-in permit under § 97.83 is submitted and not denied or withdrawn; or

(3) Any purchaser of power from a NO_X Budget unit or from a unit for which an application for a NO_X Budget opt-in permit under § 97.83 is submitted and not denied or withdrawn under a life-of-the-unit, firm power contractual arrangement. However, unless expressly provided for in a leasehold agreement, owner shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based, either directly or indirectly, upon the revenues or income from the NO_X

Budget unit or the unit for which an application for a NO_X Budget opt-in permit under §97.83 is submitted and not denied or withdrawn; or

(4) With respect to any general account, any person who has an ownership interest with respect to the NO_X allowances held in the general account and who is subject to the binding agreement for the NO_X authorized account representative to represent that person's ownership interest with respect to the NO_X allowances.

Percent monitor data availability means, for purposes of §97.43 (a)(1) and §97.84(b), total unit operating hours for which quality-assured data were recorded under subpart H of this part in a control period, divided by the total number of unit operating hours in the control period, and multiplied by 100 percent.

Permitting authority means the State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to issue or revise permits to meet the requirements of the NO_X Budget Trading Program in accordance with subpart C of this part.

Potential electrical output capacity means 33 percent of a unit's maximum design heat input.

Receive or receipt of means, when referring to the permitting authority or the Administrator, to come into possession of a document, information, or correspondence (whether sent in writing or by authorized electronic transmission), as indicated in an official correspondence log, or by a notation made on the document, information, or correspondence, by the permitting authority or the Administrator in the regular course of business.

Recordation, record, or recorded means, with regard to NO_X allowances, the movement of NO_X allowances by the Administrator from one NO_X Allowance Tracking System account to another, for purposes of allocation, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in appendix A of part 60 of this chapter.

Serial number means, when referring to NO_X allowances, the unique identification number assigned to each NO_X allowance by the Administrator, under §97.53(c).

Source means any governmental, institutional, commercial, or industrial structure, installation, plant, building, or facility that emits or has the potential to emit any regulated air pollutant under the Clean Air Act. For purposes of section 502(c) of the Clean Air Act, a ''source,'' including a ''source'' with multiple units, shall be considered a single ''facility.''

State means one of the 48 contiguous States or a portion thereof or the District of Columbia that is specified in §52.34 of this chapter and in which are located units for which the Administrator makes an effective finding under §52.34 of this chapter.

Submit or *serve* means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery. Compliance with any ''submission,'' ''service,'' or ''mailing'' deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Title V operating permit means a permit issued under title V of the Clean Air Act and part 70 or part 71 of this chapter.

Title V operating permit regulations means the regulations that the Administrator has approved or issued as meeting the requirements of title V of the Clean Air Act and part 70 or 71 of this chapter.

Ton or *tonnage* means any ''short ton'' (i.e., 2,000 pounds). For the purpose of determining compliance with the NO_X Budget emissions limitation, total tons for a control period shall be calculated as the sum of all recorded hourly emissions (or the tonnage equivalent of the recorded hourly emissions rates) in accordance with subpart H of this part, with any remaining fraction of a ton equal to or greater than 0.50 ton deemed to equal one ton and any fraction of a ton less than 0.50 ton deemed to equal zero tons.

Unit means a fossil fuel-fired stationary boiler, combustion turbine, or combined cycle system.

Unit operating day means a calendar day in which a unit combusts any fuel.

Unit operating hour or *hour of unit operation* means any hour (or fraction of an hour) during which a unit combusts any fuel.

[65 FR 2727, Jan. 18, 2000, as amended at 69 FR 21645, Apr. 21, 2004]

§ 97.3 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this part are defined as follows:

Btu-British thermal unit.
CO_2-carbon dioxide.
hr-hour.
kW-kilowatt electrical.
kWh-kilowatt hour.
lb-pounds.
mmBtu-million Btu.
MWe-megawatt electrical.
NO_X-nitrogen oxides.
O_2-oxygen.
ton-2000 pounds.

§ 97.4 Applicability.

(a) The following units in a State shall be a NO_X Budget unit, and any source that includes one or more such units shall be a NO_X Budget source, subject to the requirements of this part:

(1)(i) For units other than cogeneration units—

(A) For units commencing operation before January 1, 1997, a unit serving during 1995 or 1996 a generator—

(*1*) With a nameplate capacity greater than 25 MWe and

(*2*) Producing electricity for sale under a firm contract to the electric grid.

(B) For units commencing operation in 1997 or 1998, a unit serving during 1997 or 1998 a generator—

(*1*) With a nameplate capacity greater than 25 MWe and

(*2*) Producing electricity for sale under a firm contract to the electric grid.

(C) For units commencing operation on or after January 1, 1999, a unit serving at any time a generator—

(*1*) With a nameplate capacity greater than 25 MWe and

(*2*) Producing electricity for sale.

(ii) For cogeneration units—

(A) For units commencing operation before January 1, 1997, a unit serving during 1995 or 1996 a generator with a nameplate capacity greater than 25 MWe and failing to qualify as an unaffected unit under § 72.6(b)(4) of this chapter for 1995 or 1996 under the Acid Rain Program.

(B) For units commencing operation in 1997 or 1998, a unit serving during 1997 or 1998 a generator with a nameplate capacity grater than 25 MWe and failing to qualify as an unaffected unit under § 72.6(b)(4) of this chapter for 1997 or 1998 under the Acid Rain Program.

(C) For units commencing operation on or after January 1, 1999, a unit serving at any time a generator with a nameplate capacity greater than 25 MWe and failing to qualify as an unaffected unit under § 72.6(b)(4) of this chapter under the Acid Rain Program for any year.

(2)(i) For units other than cogeneration units—

(A) For units commencing operation before January 1, 1997, a unit—

(*1*) With a maximum design heat input greater than 250 mmBtu/hr and

(*2*) Not serving during 1995 or 1996 a generator producing electricity for sale under a firm contract to the electric grid.

(B) For units commencing operation in 1997 or 1998, a unit—

(*1*) With a maximum design heat input greater than 250 mmBtu/hr and

(*2*) Not serving during 1997 or 1998 a generator producing electricity for sale under a firm contract to the electric grid.

(C) For units commencing on or after January 1, 1999, a unit with a maximum design heat input greater than 250 mmBtu/hr:

(*1*) At no time serving a generator producing electricity for sale; or

(*2*) At any time serving a generator with a nameplate capacity of 25 MWe or less producing electricity for sale and with the potential to use no more than 50 percent of the potential electrical output capacity of the unit.

(ii) For cogeneration units—

(A) For units commencing operation before January 1, 1997, a unit with a maximum design heat input greater than 250 mmBtu/hr and qualifying as

an unaffected unit under §72.6(b)(4) of this chapter under the Acid Rain Program for 1995 and 1996.

(B) For units commencing operation in 1997 or 1998, a unit with a maximum design heat input greater than 250 mmBtu/hr and qualifying as an unaffected unit under §72.6(b)(4) under the Acid Rain Program for 1997 and 1998.

(C) For units commencing on or after January 1, 1999, a unit with a maximum design heat input greater than 250 mmBtu/hr and qualifying as an unaffected unit under §72.6(b)(4) of this chapter under the Acid Rain Program for each year.

(b)(1) Notwithstanding paragraph (a) of this section, a unit under paragraph (a)(1) or (a)(2) of this section that has a federally enforceable permit that restricts the unit to combusting only natural gas or fuel oil (as defined in §75.2 of this chapter) during a control period includes a NO_X emission limitation restricting NO_X emissions during a control period to 25 tons or less, and includes the special provisions in paragraph (b)(4) of this section shall be exempt from the requirements of the NO_X Budget Trading Program, except for the provisions of this paragraph (b), §97.2, §97.3, §97.4(a), §97.7, and subparts E, F, and G of this part. The NO_X emission limitation under this paragraph (b)(1) shall restrict NO_X emissions during the control period by limiting unit operating hours. The restriction on unit operating hours shall be calculated by dividing 25 tons by the unit's maximum potential hourly NO_X mass emissions, which shall equal the unit's maximum rated hourly heat input multiplied by the highest default NO_X emission rate otherwise applicable to the unit under §75.19 of this chapter.

(2) The exemption under paragraph (b)(1) of this section shall become effective as follows:

(i) The exemption shall become effective on the date on which the NO_X emission limitation and the special provisions in the permit under paragraph (b)(1) of this section become final; or

(ii) If the NO_X emission limitation and the special provisions in the permit under paragraph (b)(1) of this section become final during a control period and after the first date on which the unit operates during such control period, then the exemption shall become effective on May 1 of such control period, provided that such NO_X emission limitation and the special provisions apply to the unit as of such first date of operation. If such NO_X emission limitation and special provisions do not apply to the unit as of such first date of operation, then the exemption under paragraph (b)(1) of this section shall become effective on October 1 of the year during which such NO_X emission limitation and the special provisions become final.

(3) The permitting authority that issues a federally enforceable permit under paragraph (b)(1) of this section for a unit under paragraph (a)(1) or (a)(2) of this section will provide the Administrator written notice of the issuance of such permit and, upon request, a copy of the permit.

(4) *Special provisions.* (i) A unit exempt under paragraph (b)(1) of this section shall comply with the restriction on fuel use and unit operating hours described in paragraph (b)(1) of this section during the control period in each year.

(ii) The Administrator will allocate NO_X allowances to the unit under §§97.41(a) through (c) and 97.42(a) through (c). For each control period for which the unit is allocated NO_X allowances under §§97.41(a) through (c) and 97.42(a) through (c):

(A) The owners and operators of the unit must specify a general account, in which the Administrator will record the NO_X allowances; and

(B) After the Administrator records a NO_X allowance allocations under §§97.41(a) through (c) and 97.42(a) through (c), the Administrator will deduct, from the general account under paragraph (b)(4)(ii)(A) of this section, NO_X allowances that are allocated for the same or a prior control period as the NO_X allowances allocated to the unit under §§97.41(a) through (c) and 97.42(a) through (c) and that equal the NO_X emission limitation (in tons of NO_X) on which the unit's exemption under paragraph (b)(1) of this section is

based. The NO_X authorized account representative shall ensure that such general account contains the NO_X allowances necessary for completion of such deduction.

(iii) A unit exempt under this paragraph (b) shall report hours of unit operation during the control period in each year to the permitting authority by November 1 of that year.

(iv) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under paragraph (b)(1) of this section shall retain, at the source that includes the unit, records demonstrating that the conditions of the federally enforceable permit under paragraph (b)(1) of this section were met, including the restriction on fuel use or unit operating hours. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the permitting authority or the Administrator. The owners and operators bear the burden of proof that the unit met the restriction on fuel use or unit operating hours.

(v) The owners and operators and, to the extent applicable, the NO_X authorized account representative of a unit exempt under paragraph (b)(1) of this section shall comply with the requirements of the NO_X Budget Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(vi) On the earlier of the following dates, a unit exempt under paragraph (b)(1) of this section shall lose its exemption:

(A) The date on which the restriction on fuel use or unit operating hours described in paragraph (b)(1) of this section is removed from the unit's federally enforceable permit or otherwise becomes no longer applicable to any control period starting in 2004; or

(B) The first date on which the unit fails to comply, or with regard to which the owners and operators fail to meet their burden of proving that the unit is complying, with the restriction on fuel use or unit operating hours described in paragraph (b)(1) of this section during any control period starting in 2004.

(vii) A unit that loses its exemption in accordance with paragraph (b)(4)(vi) of this section shall be subject to the requirements of this part. For the purpose of applying permitting requirements under subpart C of this part, allocating allowances under subpart E of this part, and applying monitoring requirements under subpart H of this part, the unit shall be treated as commencing operation and, if the unit is covered by paragraph (a)(1) of this section, commencing commercial operation on the date the unit loses its exemption.

(viii) A unit that is exempt under paragraph (b)(1) of this section is not eligible to be a NO_X Budget opt-in unit under subpart I of this part.

[65 FR 2727, Jan. 18, 2000, as amended at 67 FR 21529, Apr. 30, 2002; 69 FR 21645, Apr. 21, 2004]

§ 97.5 Retired unit exemption.

(a) This section applies to any NO_X Budget unit, other than a NO_X Budget opt-in unit, that is permanently retired.

(b)(1) Any NO_X Budget unit, other than a NO_X Budget opt-in unit, that is permanently retired shall be exempt from the NO_X Budget Trading Program, except for the provisions of this section, § 97.2, § 97.3, § 97.4, § 97.7, and subparts E, F, and G of this part.

(2) The exemption under paragraph (b)(1) of this section shall become effective the day on which the unit is permanently retired. Within 30 days of permanent retirement, the NO_X authorized account representative (authorized in accordance with subpart B of this part) shall submit a statement to the permitting authority otherwise responsible for administering any NO_X Budget permit for the unit. The NO_X authorized account representative shall submit a copy of the statement to the Administrator. The statement shall state, in a format prescribed by the permitting authority, that the unit is permanently retired and will comply with the requirements of paragraph (c) of this section.

(3) After receipt of the notice under paragraph (b)(2) of this section, the permitting authority will amend any permit covering the source at which

the unit is located to add the provisions and requirements of the exemption under paragraphs (b)(1) and (c) of this section.

(c) *Special provisions.* (1) A unit exempt under this section shall not emit any nitrogen oxides, starting on the date that the exemption takes effect.

(2) The Administrator will allocate NO_X allowances under subpart E of this part to a unit exempt under this section. For each control period for which the unit is allocated one or more NO_X allowances, the owners and operators of the unit shall specify a general account, in which the Administrator will record such NO_X allowances.

(3) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under this section shall retain at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the permitting authority or the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(4) The owners and operators and, to the extent applicable, the NO_X authorized account representative of a unit exempt under this section shall comply with the requirements of the NO_X Budget Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(5)(i) A unit exempt under this section and located at a source that is required, or but for this exemption would be required, to have a title V operating permit shall not resume operation unless the NO_X authorized account representative of the source submits a complete NO_X Budget permit application under §97.22 for the unit not less than 18 months (or such lesser time provided by the permitting authority) before the later of May 31, 2004 or the date on which the unit resumes operation.

(ii) A unit exempt under this section and located at a source that is required, or but for this exemption would be required, to have a non-title V permit shall not resume operation unless the NO_X authorized account representative of the source submits a complete NO_X Budget permit application under §97.22 for the unit not less than 18 months (or such lesser time provided by the permitting authority) before the later of May 31, 2004 or the date on which the unit is to first resume operation.

(6) On the earlier of the following dates, a unit exempt under paragraph (b) of this section shall lose its exemption:

(i) The date on which the NO_X authorized account representative submits a NO_X Budget permit application under paragraph (c)(5) of this section;

(ii) The date on which the NO_X authorized account representative is required under paragraph (c)(5) of this section to submit a NO_X Budget permit application; or

(iii) The date on which the unit resumes operation, if the unit is not required to submit a NO_X permit application.

(7) For the purpose of applying monitoring requirements under subpart H of this part, a unit that loses its exemption under this section shall be treated as a unit that commences operation or commercial operation on the first date on which the unit resumes operation.

(8) A unit that is exempt under this section is not eligible to be a NO_X Budget opt-in unit under subpart I of this part.

[65 FR 2727, Jan. 18, 2000, as amended at 67 FR 21529, Apr. 30, 2002; 69 FR 21646, Apr. 21, 2004]

§97.6 Standard requirements.

(a) *Permit requirements.* (1) The NO_X authorized account representative of each NO_X Budget source required to have a federally enforceable permit and each NO_X Budget unit required to have a federally enforceable permit at the source shall:

(i) Submit to the permitting authority a complete NO_X Budget permit application under §97.22 in accordance with the deadlines specified in §97.21(b) and (c);

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review a NO_X Budget

permit application and issue or deny a NO_X Budget permit.

(2) The owners and operators of each NO_X Budget source required to have a federally enforceable permit and each NO_X Budget unit required to have a federally enforceable permit at the source shall have a NO_X Budget permit issued by the permitting authority and operate the unit in compliance with such NO_X Budget permit.

(3) The owners and operators of a NO_X Budget source that is not otherwise required to have a federally enforceable permit are not required to submit a NO_X Budget permit application, and to have a NO_X Budget permit, under subpart C of this part for such NO_X Budget source.

(b) *Monitoring requirements.* (1) The owners and operators and, to the extent applicable, the NO_X authorized account representative of each NO_X Budget source and each NO_X Budget unit at the source shall comply with the monitoring requirements of subpart H of this part.

(2) The emissions measurements recorded and reported in accordance with subpart H of this part shall be used to determine compliance by the unit with the NO_X Budget emissions limitation under paragraph (c) of this section.

(c) *Nitrogen oxides requirements.* (1) The owners and operators of each NO_X Budget source and each NO_X Budget unit at the source shall hold NO_X allowances available for compliance deductions under § 97.54(a), (b), (e), or (f) as of the NO_X allowance transfer deadline, in the unit's compliance account and the source's overdraft account in an amount not less than the total NO_X emissions for the control period from the unit, as determined in accordance with subpart H of this part, plus any amount necessary to account for actual heat input under § 97.42(e) for the control period or to account for excess emissions for a prior control period under § 97.54(d) or to account for withdrawal from the NO_X Budget Trading Program, or a change in regulatory status, of a NO_X Budget opt-in unit under § 97.86 or § 97.87.

(2) Each ton of nitrogen oxides emitted in excess of the NO_X Budget emissions limitation shall constitute a separate violation of this part, the Clean Air Act, and applicable State law.

(3) A NO_X Budget unit shall be subject to the requirements under paragraph (c)(1) of this section starting on the later of May 31, 2004 or the date on which the unit commences operation.

(4) NO_X allowances shall be held in, deducted from, or transferred among NO_X Allowance Tracking System accounts in accordance with subparts E, F, G, and I of this part.

(5) A NO_X allowance shall not be deducted, in order to comply with the requirements under paragraph (c)(1) of this section, for a control period in a year prior to the year for which the NO_X allowance was allocated.

(6) A NO_X allowance allocated by the Administrator under the NO_X Budget Trading Program is a limited authorization to emit one ton of nitrogen oxides in accordance with the NO_X Budget Trading Program. No provision of the NO_X Budget Trading Program, the NO_X Budget permit application, the NO_X Budget permit, or an exemption under § 97.4(b) or § 97.5 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.

(7) A NO_X allowance allocated by the Administrator under the NO_X Budget Trading Program does not constitute a property right.

(8) Upon recordation by the Administrator under subpart F or G of this part, every allocation, transfer, or deduction of a NO_X allowance to or from a NO_X Budget unit's compliance account or the overdraft account of the source where the unit is located is incorporated automatically in any NO_X Budget permit of the NO_X Budget unit.

(d) *Excess emissions requirements.* (1) The owners and operators of a NO_X Budget unit that has excess emissions in any control period shall:

(i) Surrender the NO_X allowances required for deduction under § 97.54(d)(1); and

(ii) Pay any fine, penalty, or assessment or comply with any other remedy imposed under § 97.54(d)(3).

(e) *Recordkeeping and reporting requirements.* (1) Unless otherwise provided, the owners and operators of the NO_X Budget source and each NO_X Budget unit at the source shall keep on site

at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the permitting authority or the Administrator.

(i) The account certificate of representation under §97.13 for the NO_X authorized account representative for the source and each NO_X Budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new account certificate of representation under §97.13 changing the NO_X authorized account representative.

(ii) All emissions monitoring information, in accordance with subpart H of this part; provided that to the extent that subpart H of this part provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the NO_X Budget Trading Program.

(iv) Copies of all documents used to complete a NO_X Budget permit application and any other submission under the NO_X Budget Trading Program or to demonstrate compliance with the requirements of the NO_X Budget Trading Program.

(2) The NO_X authorized account representative of a NO_X Budget source and each NO_X Budget unit at the source shall submit the reports and compliance certifications required under the NO_X Budget Trading Program, including those under subpart D, H, or I of this part.

(f) *Liability*. (1) Any person who knowingly violates any requirement or prohibition of the NO_X Budget Trading Program, a NO_X Budget permit, or an exemption under §97.4(b) or §97.5 shall be subject to enforcement pursuant to applicable State or Federal law.

(2) Any person who knowingly makes a false material statement in any record, submission, or report under the NO_X Budget Trading Program shall be subject to criminal enforcement pursuant to the applicable State or Federal law.

(3) No permit revision shall excuse any violation of the requirements of the NO_X Budget Trading Program that occurs prior to the date that the revision takes effect.

(4) Each NO_X Budget source and each NO_X Budget unit shall meet the requirements of the NO_X Budget Trading Program.

(5) Any provision of the NO_X Budget Trading Program that applies to a NO_X Budget source or the NO_X authorized account representative of a NO_X Budget source shall also apply to the owners and operators of such source and of the NO_X Budget units at the source.

(6) Any provision of the NO_X Budget Trading Program that applies to a NO_X Budget unit or the NO_X authorized account representative of a NO_X budget unit shall also apply to the owners and operators of such unit. Except with regard to the requirements applicable to units with a common stack under subpart H of this part, the owners and operators and the NO_X authorized account representative of one NO_X Budget unit shall not be liable for any violation by any other NO_X Budget unit of which they are not owners or operators or the NO_X authorized account representative and that is located at a source of which they are not owners or operators or the NO_X authorized account representative.

(g) *Effect on other authorities*. No provision of the NO_X Budget Trading Program, a NO_X Budget permit application, a NO_X Budget permit, or an exemption under §97.4(b) or §97.5 shall be construed as exempting or excluding the owners and operators and, to the extent applicable, the NO_X authorized account representative of a NO_X Budget source or NO_X Budget unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

[65 FR 2727, Jan. 18, 2000, as amended at 67 FR 21529, Apr. 30, 2002]

§97.7 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the NO_X Budget Trading Program, to begin on the occurrence of an act or event shall

begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the NO_X Budget Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the NO_X Budget Trading Program, falls on a weekend or a State or Federal holiday, the time period shall be extended to the next business day.

Subpart B—NO_X Authorized Account Representative for NO_X Budget Sources

§ 97.10 Authorization and responsibilities of NO_X authorized account representative.

(a) Except as provided under § 97.11, each NO_X Budget source, including all NO_X Budget units at the source, shall have one and only one NO_X authorized account representative, with regard to all matters under the NO_X Budget Trading Program concerning the source or any NO_X Budget unit at the source.

(b) The NO_X authorized account representative of the NO_X Budget source shall be selected by an agreement binding on the owners and operators of the source and all NO_X Budget units at the source.

(c) Upon receipt by the Administrator of a complete account certificate of representation under § 97.13, the NO_X authorized account representative of the source shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the NO_X Budget source represented and each NO_X Budget unit at the source in all matters pertaining to the NO_X Budget Trading Program, not withstanding any agreement between the NO_X authorized account representative and such owners and operators. The owners and operators shall be bound by any decision or order issued to the NO_X authorized account representative by the permitting authority, the Administrator, or a court regarding the source or unit.

(d) No NO_X Budget permit shall be issued, and no NO_X Allowance Tracking System account shall be established for a NO_X Budget unit at a source, until the Administrator has received a complete account certificate of representation under § 97.13 for a NO_X authorized account representative of the source and the NO_X Budget units at the source.

(e) (1) Each submission under the NO_X Budget Trading Program shall be submitted, signed, and certified by the NO_X authorized account representative for each NO_X Budget source on behalf of which the submission is made. Each such submission shall include the following certification statement by the NO_X authorized account representative: ''I am authorized to make this submission on behalf of the owners and operators of the NO_X Budget sources or NO_X Budget units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) The permitting authority and the Administrator will accept or act on a submission made on behalf of owner or operators of a NO_X Budget source or a NO_X Budget unit only if the submission has been made, signed, and certified in accordance with paragraph (e)(1) of this section.

§ 97.11 Alternate NO_X authorized account representative.

(a) An account certificate of representation may designate one and only one alternate NO_X authorized account representative who may act on behalf of the NO_X authorized account representative. The agreement by which the alternate NO_X authorized account representative is selected shall include a procedure for authorizing the

alternate NO_X authorized account representative to act in lieu of the NO_X authorized account representative.

(b) Upon receipt by the Administrator of a complete account certificate of representation under §97.13, any representation, action, inaction, or submission by the alternate NO_X authorized account representative shall be deemed to be a representation, action, inaction, or submission by the NO_X authorized account representative.

(c) Except in this section and §§97.10(a), 97.12, 97.13, and 97.51, whenever the term ''NO_X authorized account representative'' is used in this part, the term shall be construed to include the alternate NO_X authorized account representative.

§97.12 Changing NO_X authorized account representative and alternate NO_X authorized account representative; changes in owners and operators.

(a) *Changing NO_X authorized account representative.* The NO_X authorized account representative may be changed at any time upon receipt by the Administrator of a superseding complete account certificate of representation under §97.13. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous NO_X authorized account representative prior to the time and date when the Administrator receives the superseding account certificate of representation shall be binding on the new NO_X authorized account representative and the owners and operators of the NO_X Budget source and the NO_X Budget units at the source.

(b) *Changing alternate NO_X authorized account representative.* The alternate NO_X authorized account representative may be changed at any time upon receipt by the Administrator of a superseding complete account certificate of representation under §97.13. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate NO_X authorized account representative prior to the time and date when the Administrator receives the superseding account certificate of representation shall be binding on the new alternate NO_X authorized account representative and the owners and operators of the NO_X Budget source and the NO_X Budget units at the source.

(c) *Changes in owners and operators.* (1) In the event a new owner or operator of a NO_X Budget source or a NO_X Budget unit is not included in the list of owners and operators submitted in the account certificate of representation under §97.13, such new owner or operator shall be deemed to be subject to and bound by the account certificate of representation, the representations, actions, inactions, and submissions of the NO_X authorized account representative and any alternate NO_X authorized account representative of the source or unit, and the decisions, orders, actions, and inactions of the permitting authority or the Administrator, as if the new owner or operator were included in such list.

(2) Within 30 days following any change in the owners and operators of a NO_X Budget source or a NO_X Budget unit, including the addition of a new owner or operator, the NO_X authorized account representative or alternate NO_X authorized account representative shall submit a revision to the account certificate of representation under §97.13 amending the list of owners and operators to include the change.

§97.13 Account certificate of representation.

(a) A complete account certificate of representation for a NO_X authorized account representative or an alternate NO_X authorized account representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the NO_X Budget source and each NO_X Budget unit at the source for which the account certificate of representation is submitted.

(2) The name, address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the NO_X authorized account representative and any alternate NO_X authorized account representative.

(3) A list of the owners and operators of the NO_X Budget source and of each NO_X Budget unit at the source.

(4) The following certification statement by the NO_X authorized account representative and any alternate NO_X authorized account representative: ''I

certify that I was selected as the NO_X authorized account representative or alternate NO_X authorized account representative, as applicable, by an agreement binding on the owners and operators of the NO_X Budget source and each NO_X Budget unit at the source. I certify that I have all the necessary authority to carry out my duties and responsibilities under the NO_X Budget Trading Program on behalf of the owners and operators of the NO_X Budget source and of each NO_X Budget unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the permitting authority, the Administrator, or a court regarding the source or unit.''

(5) The signature of the NO_X authorized account representative and any alternate NO_X authorized account representative and the dates signed.

(b) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the account certificate of representation shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

§ 97.14 Objections concerning NO_X authorized account representative.

(a) Once a complete account certificate of representation under § 97.13 has been submitted and received, the permitting authority and the Administrator will rely on the account certificate of representation unless and until a superseding complete account certificate of representation under § 97.13 is received by the Administrator.

(b) Except as provided in § 97.12 (a) or (b), no objection or other communication submitted to the permitting authority or the Administrator concerning the authorization, or any representation, action, inaction, or submission of the NO_X authorized account representative shall affect any representation, action, inaction, or submission of the NO_X authorized account representative or the finality of any decision or order by the permitting authority or the Administrator under the NO_X Budget Trading Program.

(c) Neither the permitting authority nor the Administrator will adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any NO_X authorized account representative, including private legal disputes concerning the proceeds of NO_X allowance transfers.

Subpart C—Permits

§ 97.20 General NO_X Budget Trading Program permit requirements.

(a) For each NO_X Budget source required to have a federally enforceable permit, such permit shall include a NO_X Budget permit administered by the permitting authority for the federally enforceable permit.

(1) For NO_X Budget sources required to have a title V operating permit, the NO_X Budget portion of the title V permit shall be administered in accordance with the permitting authority's title V operating permits regulations promulgated under part 70 or 71 of this chapter, except as provided otherwise by this subpart or subpart I of this part.

(2) For NO_X Budget sources required to have a non-title V permit, the NO_X Budget portion of the non-title V permit shall be administered in accordance with the permitting authority's regulations promulgated to administer non-title V permits, except as provided otherwise by this subpart or subpart I of this part.

(b) Each NO_X Budget permit shall contain all applicable NO_X Budget Trading Program requirements and shall be a complete and segregable portion of the permit under paragraph (a) of this section.

§ 97.21 Submission of NO_X Budget permit applications.

(a) *Duty to apply*. The NO_X authorized account representative of any NO_X Budget source required to have a federally enforceable permit shall submit to the permitting authority a complete NO_X Budget permit application under § 97.22 by the applicable deadline in paragraph (b) of this section.

(b)(1) For NO_X Budget sources required to have a title V operating permit:

(i) For any source, with one or more NO_X Budget units under §97.4(a) that commence operation before January 1, 2001, the NO_X authorized account representative shall submit a complete NO_X Budget permit application under §97.22 covering such NO_X Budget units to the permitting authority at least 18 months (or such lesser time provided by the permitting authority) before May 31, 2004.

(ii) For any source, with any NO_X Budget unit under §97.4(a) that commences operation on or after January 1, 2001, the NO_X authorized account representative shall submit a complete NO_X Budget permit application under §97.22 covering such NO_X Budget unit to the permitting authority at least 18 months (or such lesser time provided by the permitting authority) before the later of May 31, 2004 or the date on which the NO_X Budget unit commences operation.

(2) For NO_X Budget sources required to have a non-title V permit:

(i) For any source, with one or more NO_X Budget units under §97.4(a) that commence operation before January 1, 2001, the NO_X authorized account representative shall submit a complete NO_X Budget permit application under §97.22 covering such NO_X Budget units to the permitting authority at least 18 months (or such lesser time provided by the permitting authority) before May 31, 2004.

(ii) For any source, with any NO_X Budget unit under §97.4(a) that commences operation on or after January 1, 2001, the NO_X authorized account representative shall submit a complete NO_X Budget permit application under §97.22 covering such NO_X Budget unit to the permitting authority at least 18 months (or such lesser time provided by the permitting authority) before the later of May 31, 2004 or the date on which the NO_X Budget unit commences operation.

(c) *Duty to reapply*. (1) For a NO_X Budget source required to have a title V operating permit, the NO_X authorized account representative shall submit a complete NO_X Budget permit application under §97.22 for the NO_X Budget source covering the NO_X Budget units at the source in accordance with the permitting authority's title V operating permits regulations addressing operating permit renewal.

(2) For a NO_X Budget source required to have a non-title V permit, the NO_X authorized account representative shall submit a complete NO_X Budget permit application under §97.22 for the NO_X Budget source covering the NO_X Budget units at the source in accordance with the permitting authority's non-title V permits regulations addressing permit renewal.

[65 FR 2727, Jan. 18, 2000, as amended at 67 FR 21529, Apr. 30, 2002]

§97.22 Information requirements for NO_X Budget permit applications.

A complete NO_X Budget permit application shall include the following elements concerning the NO_X Budget source for which the application is submitted, in a format prescribed by the permitting authority:

(a) Identification of the NO_X Budget source, including plant name and the ORIS (Office of Regulatory Information Systems) or facility code assigned to the source by the Energy Information Administration, if applicable;

(b) Identification of each NO_X Budget unit at the NO_X Budget source and whether it is a NO_X Budget unit under §97.4(a) or under subpart I of this part;

(c) The standard requirements under §97.6; and

(d) For each NO_X Budget opt-in unit at the NO_X Budget source, the following certification statements by the NO_X authorized account representative:

(1) ''I certify that each unit for which this permit application is submitted under subpart I of this part is not a NO_X Budget unit under 40 CFR 97.4(a) and is not covered by an exemption under 40 CFR 97.4(b) or 97.5 that is in effect.''

(2) If the application is for an initial NO_X Budget opt-in permit, ''I certify that each unit for which this permit application is submitted under subpart I of 40 CFR part 97 is operating, as that term is defined under 40 CFR 97.2.''

§ 97.23 NO_X Budget permit contents.

(a) Each NO_X Budget permit will contain, in a format prescribed by the permitting authority, all elements required for a complete NO_X Budget permit application under § 97.22.

(b) Each NO_X Budget permit is deemed to incorporate automatically the definitions of terms under § 97.2 and, upon recordation by the Administrator under subpart F or G of this part, every allocation, transfer, or deduction of a NO_X allowance to or from the compliance accounts of the NO_X Budget units covered by the permit or the overdraft account of the NO_X Budget source covered by the permit.

§ 97.24 NO_X Budget permit revisions.

(a) For a NO_X Budget source with a title V operating permit, except as provided in § 97.23(b), the permitting authority will revise the NO_X Budget permit, as necessary, in accordance with the permitting authority's title V operating permits regulations addressing permit revisions.

(b) For a NO_X Budget source with a non-title V permit, except as provided in § 97.23(b), the permitting authority will revise the NO_X Budget permit, as necessary, in accordance with the permitting authority's non-title V permits regulations addressing permit revisions.

Subpart D—Compliance Certification

§ 97.30 Compliance certification report.

(a) *Applicability and deadline.* For each control period in which one or more NO_X Budget units at a source are subject to the NO_X Budget emissions limitation, the NO_X authorized account representative of the source shall submit to the permitting authority and the Administrator by November 30 of that year, a compliance certification report for each source covering all such units.

(b) *Contents of report.* The NO_X authorized account representative shall include in the compliance certification report under paragraph (a) of this section the following elements, in a format prescribed by the Administrator, concerning each unit at the source and subject to the NO_X Budget emissions limitation for the control period covered by the report:

(1) Identification of each NO_X Budget unit;

(2) At the NO_X authorized account representative's option, the serial numbers of the NO_X allowances that are to be deducted from each unit's compliance account under § 97.54 for the control period;

(3) At the NO_X authorized account representative's option, for units sharing a common stack and having NO_X emissions that are not monitored separately or apportioned in accordance with subpart H of this part, the percentage of allowances that is to be deducted from each unit's compliance account under § 97.54(e); and

(4) The compliance certification under paragraph (c) of this section.

(c) *Compliance certification.* In the compliance certification report under paragraph (a) of this section, the NO_X authorized account representative shall certify, based on reasonable inquiry of those persons with primary responsibility for operating the source and the NO_X Budget units at the source in compliance with the NO_X Budget Trading Program, whether each NO_X Budget unit for which the compliance certification is submitted was operated during the calendar year covered by the report in compliance with the requirements of the NO_X Budget Trading Program applicable to the unit, including:

(1) Whether the unit was operated in compliance with the NO_X Budget emissions limitation;

(2) Whether the monitoring plan that governs the unit has been maintained to reflect the actual operation and monitoring of the unit and contains all information necessary to attribute NO_X emissions to the unit, in accordance with subpart H of this part;

(3) Whether all the NO_X emissions from the unit, or a group of units (including the unit) using a common stack, were monitored or accounted for through the missing data procedures and reported in the quarterly monitoring reports, including whether conditional data were reported in the quarterly reports in accordance with

subpart H of this part. If conditional data were reported, the owner or operator shall indicate whether the status of all conditional data has been resolved and all necessary quarterly report resubmissions have been made;

(4) Whether the facts that form the basis for certification under subpart H of this part of each monitor at the unit or a group of units (including the unit) using a common stack, or for using an excepted monitoring method or alternative monitoring method approved under subpart H of this part, if any, have changed; and

(5) If a change is required to be reported under paragraph (c)(4) of this section, specify the nature of the change, the reason for the change, when the change occurred, and how the unit's compliance status was determined subsequent to the change, including what method was used to determine emissions when a change mandated the need for monitor recertification.

§97.31 Administrator's action on compliance certifications.

(a) The Administrator may review and conduct independent audits concerning any compliance certification or any other submission under the NO_X Budget Trading Program and make appropriate adjustments of the information in the compliance certifications or other submissions.

(b) The Administrator may deduct NO_X allowances from or transfer NO_X allowances to a unit's compliance account or a source's overdraft account based on the information in the compliance certifications or other submissions, as adjusted under paragraph (a) of this section.

Subpart E—NO_X Allowance Allocations

§97.40 Trading program budget.

In accordance with §§97.41 and 97.42, the Administrator will allocate to the NO_X Budget units under §97.4(a) in a State, for each control period specified in §97.41, a total number of NO_X allowances equal to the trading budget for the State, as set forth in appendix C of this part, less the sum of the NO_X emission limitations (in tons) for each unit exempt under §97.4(b) that is not allocated any NO_X allowances under §97.42 (b) or (c) for the control period and whose NO_X emission limitation (in tons of NO_X) is not included in the amount calculated under §97.42(d)(5)(ii)(B) for the control period.

[65 FR 2727, Jan. 18, 2000, as amended at 69 FR 21646, Apr. 21, 2004]

§97.41 Timing requirements for NO_X allowance allocations.

(a) The NO_X allowance allocations, determined in accordance with §§97.42(a) through (c), for the control periods in 2004 through 2007 are set forth in appendices A and B of this part.

(b) By April 1, 2005, the Administrator will determine by order the NO_X allowance allocations, in accordance with §§97.42 (a) through (c), for the control periods in 2008 through 2012.

(c) By April 1, 2010, by April 1 of 2015, and thereafter by April 1 of the year that is 5 years after the last year for which NO_X allowances allocations are determined, the Administrator will determine by order the NO_X allowance allocations, in accordance with §§97.42(a) through (c), for the control periods in the years that are 3, 4, 5, 6, and 7 years after the applicable deadline under this paragraph (c).

(d) By April 1, 2004 and April 1 of each year thereafter, the Administrator will determine by order the NO_X allowance allocations, in accordance with §97.42(d), for the control period in the year of the applicable deadline under this paragraph (d).

(e) The Administrator will make available to the public each determination of NO_X allowance allocations under paragraph (b), (c), or (d) of this section and will provide an opportunity for submission of objections to the determination. Objections shall be limited to addressing whether the determination is in accordance with §97.42. Based on any such objections, the Administrator will adjust each determination to the extent necessary to ensure that it is in accordance with §97.42.

[65 FR 2727, Jan. 18, 2000, as amended at 67 FR 21529, Apr. 30, 2002]

§ 97.42 NO_X allowance allocations.

(a)(1) The heat input (in mmBtu) used for calculating NO_X allowance allocations for each NO_X Budget unit under § 97.4(a) will be:

(i) For a NO_X allowance allocation under § 97.41(a):

(A) For a unit under § 97.4(a)(1), the average of the two highest amounts of the unit's heat input for the control periods in 1995 through 1998; or

(B) For a unit under § 97.4(a)(2), the control period in 1995 or, if the Administrator determines that reasonably reliable data are available for control periods in 1996 through 1998, the average of the two highest amounts of the unit's heat input for the control periods in 1995 through 1998.

(ii) For a NO_X allowance allocation under § 97.41(b), the unit's average heat input for the control periods in 2002 through 2004.

(iii) For a NO_X allowance allocation under § 97.41(c), the unit's average heat input for the control period in the years that are 4, 5, 6, 7, and 8 years before the first year for which the allocation is being calculated.

(2) The unit's heat input for the control period in each year specified under paragraph (a)(1) of this section will be determined in accordance with part 75 of this chapter. Notwithstanding the first sentence of this paragraph (a)(2):

(i) For a NO_X allowance allocation under § 97.41(a), such heat input will be determined using the best available data reported to the Administrator for the unit if the unit was not otherwise subject to the requirements of part 75 of this chapter for the control period.

(ii) For a NO_X allowance allocation under § 97.41(b) or (c) for a unit exempt under § 97.4(b), such heat input shall be treated as zero if the unit is exempt under § 97.4(b) during the control period.

(b) For each group of control periods specified in § 97.41(a) through (c), the Administrator will allocate to all NO_X Budget units in a given State under § 97.4(a)(1) that commenced operation before May 1, 1997 for allocations under § 97.41(a), May 1, 2003 for allocations under § 97.41(b), and May 1 of the year 5 years before the first year for which the allocation under § 97.41(c) is being calculated, a total number of NO_X allowances equal to 95 percent of the portion of the State's trading program budget under § 97.40 covering such units. The Administrator will allocate in accordance with the following procedures:

(1) The Administrator will allocate NO_X allowances to each NO_X Budget unit under § 97.4(a)(1) for each control period in an amount equaling 0.15 lb/mmBtu multiplied by the heat input determined under paragraph (a) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole number of NO_X allowances as appropriate.

(2) If the initial total number of NO_X allowances allocated to all NO_X Budget units under § 97.4(a)(1) in the State for a control period under paragraph (b)(1) of this section does not equal 95 percent of the portion of the State's trading program budget under § 97.40 covering such units, the Administrator will adjust the total number of NO_X allowances allocated to all such NO_X Budget units for the control period under paragraph (b)(1) of this section so that the total number of NO_X allowances allocated equals 95 percent of such portion of the State's trading program budget. This adjustment will be made by: multiplying each unit's allocation by 95 percent of such portion of the State's trading program budget; dividing by the total number of NO_X allowances allocated under paragraph (b)(1) of this section for the control period; and rounding to the nearest whole number of NO_X allowances as appropriate.

(c) For each group of control periods specified in § 97.41(a) through (c), the Administrator will allocate to all NO_X Budget units in a given State under § 97.4(a)(2) that commenced operation before May 1, 1997 for allocations under § 97.41(a), May 1, 2003 for allocations under § 97.41(b), and May 1 of the year 5 years before the first year for which the allocation under § 97.41(c) is being calculated, a total number of NO_X allowances equal to 95 percent of the portion of the State's trading program budget under § 97.40 covering such units. The Administrator will allocate in accordance with the following procedures:

(1) The Administrator will allocate NO_X allowances to each NO_X Budget

unit under §97.4(a)(2) for each control period in an amount equaling 0.17 lb/mmBtu multiplied by the heat input determined under paragraph (a) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole number of NO_X allowances as appropriate.

(2) If the initial total number of NO_X allowances allocated to all NO_X Budget units under §97.4(a)(2) in the State for a control period under paragraph (c)(1) of this section does not equal 95 percent of the portion of the State's trading program budget under §97.40 covering such units, the Administrator will adjust the total number of NO_X allowances allocated to all such NO_X Budget units for the control period under paragraph (a)(1) of this section so that the total number of NO_X allowances allocated equals 95 percent of the portion of the State's trading program budget under §97.40 covering such units. This adjustment will be made by: multiplying each unit's allocation by 95 percent of the portion of the State's trading program budget under §97.40 covering such units; dividing by the total number of NO_X allowances allocated under paragraph (c)(1) of this section for the control period; and rounding to the nearest whole number of NO_X allowances as appropriate.

(d) For each control period specified in §97.41(d), the Administrator will allocate NO_X allowances to NO_X Budget units in a given State under §97.4(a) (except for units exempt under §97.4(b)) that commence operation, or are projected to commence operation, on or after: May 1, 1997 (for control periods under §97.41(a)); May 1, 2003, (for control periods under §97.41(b)); and May 1 of the year 5 years before the beginning of the group of 5 years that includes the control period (for control periods under §97.41(c)). The Administrator will make the allocations under this paragraph (d) in accordance with the following procedures:

(1) The Administrator will establish one allocation set-aside for each control period. Each allocation set-aside will be allocated NO_X allowances equal to 5 percent of the tons of NO_X emission in the State's trading program budget under §97.40, rounded to the nearest whole number of NO_X allowances as appropriate.

(2) The NO_X authorized account representative of a NO_X Budget unit specified in this paragraph (d) may submit to the Administrator a request, in a format specified by the Administrator, to be allocated NO_X allowances for the control period. The NO_X allowance allocation request must be received by the Administrator on or after the date on which the State permitting authority issues a permit to construct the unit and by January 1 before the control period for which NO_X allowances are requested.

(3) In a NO_X allowance allocation request under paragraph (d)(2) of this section, the NO_X authorized account representative for a NO_X Budget unit under §97.4(a)(1) may request for the control period NO_X allowances in an amount that does not exceed the lesser of:

(i) 0.15 lb/mmBtu multiplied by the unit's maximum design heat input, multiplied by the lesser of 3,672 hours or the number of hours remaining in the control period starting with the day in the control period on which the unit commences operation or is projected to commence operation, divided by 2,000 lb/ton, and rounded to the nearest whole number of NO_X allowances as appropriate; or

(ii) The unit's most stringent State or Federal NO_X emission limitation multiplied by the unit's maximum design heat input, multiplied by the lesser of 3,672 hours or the number of hours remaining in the control period starting with the day in the control period on which the unit commences operation or is projected to commence operation, divided by 2,000 lb/ton, and rounded to the nearest whole number of NO_X allowances as appropriate.

(4) In a NO_X allowance allocation request under paragraph (d)(2) of this section, the NO_X authorized account representative for a NO_X Budget unit under §97.4(a)(2) may request for the control period NO_X allowances in an amount that does not exceed the lesser of:

(i) 0.17 lb/mmBtu multiplied by the unit's maximum design heat input, multiplied by the lesser of 3,672 hours or the number of hours remaining in the control period starting with the day in the control period on which the

unit commences operation or is projected to commence operation, divided by 2,000 lb/ton, and rounded to the nearest whole number of NO_X allowances as appropriate; or

(ii) The unit's most stringent State or Federal NO_X emission limitation multiplied by the unit's maximum design heat input, multiplied by the lesser of 3,672 hours or the number of hours remaining in the control period starting with the day in the control period on which the unit commences operation or is projected to commence operation, divided by 2,000 lb/ton, and rounded to the nearest whole number of NO_X allowances as appropriate.

(5) The Administrator will review each NO_X allowance allocation request submitted in accordance with paragraph (d)(2) of this section and will allocate NO_X allowances pursuant to such request as follows:

(i) Upon receipt of the NO_X allowance allocation request, the Administrator will make any necessary adjustments to the request to ensure that the requirements of paragraphs (d) introductory text, (d)(2), (d)(3), and (d)(4) are met.

(ii) The Administrator will determine the following amounts:

(A) The sum of the NO_X allowances requested (as adjusted under paragraph (d)(5)(i) of this section) in all NO_X allowance allocation requests under paragraph (d)(2) of this section for the control period; and

(B) For units exempt under § 97.4(b) in the State that commenced operation, or are projected to commence operation, on or after May 1, 1997 (for control periods under § 97.41(a)); May 1, 2003, (for control periods under § 97.41(b)); and May 1 of the year 5 years before beginning of the group of 5 years that includes the control period (for control periods under § 97.41(c)), the sum of the NO_X emission limitations (in tons of NO_X) on which each unit's exemption under § 97.4(b) is based.

(iii) If the number of NO_X allowances in the allocation set-aside for the control period less the amount under paragraph (d)(5)(ii)(B) of this section is not less than the amount determined under paragraph (d)(5)(ii)(A) of this section, the Administrator will allocate the amount of the NO_X allowances requested (as adjusted under paragraph (d)(5)(i) of this section) to the NO_X Budget unit for which the allocation request was submitted.

(iv) If the number of NO_X allowances in the allocation set-aside for the control period less the amount under paragraph (d)(5)(ii)(B) of this section is less than the amount determined under paragraph (d)(5)(ii)(A) of this section, the Administrator will allocate, to the NO_X Budget unit for which the allocation request was submitted, the amount of NO_X allowances requested (as adjusted under paragraph (d)(5)(i) of this section) multiplied by the number of NO_X allowances in the allocation set-aside for the control period less the amount determined under paragraph (d)(5)(ii)(B) of this section, divided by the amount determined under paragraph (d)(5)(ii)(A) of this section, and rounded to the nearest whole number of NO_X allowances as appropriate.

(e)(1) For a NO_X Budget unit that is allocated NO_X allowances under paragraph (d) of this section for a control period, the Administrator will deduct NO_X allowances under § 97.54(b), (e), or (f) to account for the actual heat input of the unit during the control period. The Administrator will calculate the number of NO_X allowances to be deducted to account for the unit's actual heat input using the following formulas and rounding to the nearest whole number of NO_X allowance as appropriate, provided that the number of NO_X allowances to be deducted shall be zero if the number calculated is less than zero:

NO_X allowances deducted for actual heat input for a unit under § 97.4(a)(1) = Unit's NO_X allowances allocated for control period − (Unit's actual control period heat input × the lesser of 0.15 lb/mmBtu the unit's most stringent State or Federal emission limitation × 2,000 lb/ton); and NO_X allowances deducted for actual heat input for a unit under § 97.4(a)(2) = Unit's NO_X allowances allocated for control period − (Unit's actual control period heat input × the lesser of 0.17 lb/mmBtu the unit's most stringent State or Federal emission limitation × 2,000 lb/ton)

Where:

''Unit's NO_X allowances allocated for control period'' is the number of NO_X allowances allocated to the unit for the control period under paragraph (d) of this section; and

''Unit's actual control period heat input'' is the heat input (in mmBtu) of the unit during the control period.

(2) The Administrator will transfer any NO_X allowances deducted under paragraph (e)(1) of this section to the allocation set-aside for the control period for which they were allocated.

(f) After making the deductions for compliance under §97.54(b), (e), or (f) for a control period, the Administrator will determine whether any NO_X allowances remain in the allocation set-aside for the control period. The Administrator will allocate any such NO_X allowances to the NO_X Budget units in the State using the following formula and rounding to the nearest whole number of NO_X allowances as appropriate:

Unit's share of NO_X allowances remaining in allocation set-aside = Total NO_X allowances remaining in allocation set-aside × (Unit's NO_X allowance allocation ÷ State's trading program budget excluding allocation set-aside)

Where:

''Total NO_X allowances remaining in allocation set-aside'' is the total number of NO_X allowances remaining in the allocation set-aside for the control period;

''Unit's NO_X allowance allocation'' is the number of NO_X allowances allocated under paragraph (b) or (c) of this section to the unit for the control period to which the allocation set-aside applies; and

''State's trading program budget excluding allocation set-aside'' is the State's trading program budget under §97.40 for the control period to which the allocation set-aside applies multiplied by 95 percent, rounded to the nearest whole number of NO_X allowances as appropriate.

(g) If the Administrator determines that NO_X allowances were allocated under paragraph (b), (c), or (d) of this section for a control period and the recipient of the allocation is not actually a NO_X Budget unit under §97.4(a), the Administrator will notify the NO_X authorized account representative and then will act in accordance with the following procedures:

(1)(i) The Administrator will not record such NO_X allowances for the control period in an account under §97.53;

(ii) If the Administrator already recorded such NO_X allowances for the control period in an account under §97.53 and if the Administrator makes such determination before making all deductions pursuant to §97.54 (except deductions pursuant to §97.54(d)(2)) for the control period, then the Administrator will deduct from the account NO_X allowances equal in number to and allocated for the same or a prior control period as the NO_X allowances allocated to such recipient for the control period. The NO_X authorized account representative shall ensure that the account contains the NO_X allowances necessary for completion of such deduction. If account does not contain the necessary NO_X allowances, the Administrator will deduct the required number of NO_X allowances, regardless of the control period for which they were allocated, whenever NO_X allowances are recorded in the account; or

(iii) If the Administrator already recorded such NO_X allowances for the control period in an account under §97.53 and if the Administrator makes such determination after making all deductions pursuant to §97.54 (except deductions pursuant to §97.54(d)(2)) for the control period, then the Administrator will apply paragraph (g)(1)(ii) of this section to any subsequent control period for which NO_X allowances were allocated to such recipient.

(2) The Administrator will transfer the NO_X allowances that are not recorded, or that are deducted, pursuant to paragraph (g)(1) of this section to an allocation set-aside for the State in which such source is located.

[65 FR 2727, Jan. 18, 2000, as amended at 67 FR 21529, Apr. 30, 2002; 69 FR 21646, Apr. 21, 2004]

§97.43 Compliance Supplement Pool.

(a) For any NO_X Budget unit that reduces its NO_X emission rate in the 2001 through 2003 control period, the owners and operators may request early reduction credits in accordance with the following requirements:

(1) Each NO_X Budget unit for which the owners and operators intend to request, or request, any early reduction credits in accordance with paragraph (a)(4) of this section shall monitor and report NO_X emissions in accordance with subpart H of this part starting in the 2000 control period and for each control period for which such early reduction credits are requested. The unit's percent monitor data availability shall not be less than 90 percent during the 2000 control period, and the unit must be in full compliance with any applicable State or Federal NO_X emission control requirements during 2000 through 2002.

(2) NO_X emission rate and heat input under paragraphs (a)(3) and (4) of this section shall be determined in accordance with subpart H of this part.

(3) Each NO_X Budget unit for which the owners and operators intend to request, or request, any early reduction credits under paragraph (a)(4) of this section shall reduce its NO_X emission rate, for each control period for which early reduction credits are requested, to less than both 0.25 lb/mmBtu and 80 percent of the unit's NO_X emission rate in the 2000 control period.

(4) The NO_X authorized account representative of a NO_X Budget unit that meets the requirements of paragraphs (a) (1) and (3) of this section may submit to the Administrator a request for early reduction credits for the unit based on NO_X emission rate reductions made by the unit in the control period for 2001 through 2003.

(i) In the early reduction credit request, the NO_X authorized account may request early reduction credits for such control period in an amount equal to the unit's heat input for such control period multiplied by the difference between 0.25 lb/mmBtu and the unit's NO_X emission rate for such control period, divided by 2000 lb/ton, and rounded to the nearest whole number of tons.

(ii) The early reduction credit request must be submitted, in a format specified by the Administrator, by February 1, 2004.

(b) For any NO_X Budget unit that is subject to the Ozone Transport Commission NO_X Budget Program under title I of the Clean Air Act, the owners and operators may request early reduction credits in accordance with the following requirements:

(1) The NO_X authorized account representative of the unit may submit to the Administrator a request for early reduction credits in an amount equal to the amount of banked allowances under the Ozone Transport Commission NO_X Budget Program that were allocated for the control period in 2001 through 2003 and are held by the unit, in accordance with the Ozone Transport Commission NO_X Budget Program, as of the date of submission of the request. During the entire control period in 2001 through 2003 for which the allowances were allocated, the unit must have monitored and reported NO_X emissions in accordance with part 75 (except for subpart H) of this chapter and the Guidance for Implementation of Emission Monitoring Requirements for the NO_X Budget Program (January 28, 1997).

(2) The early reduction credit request under paragraph (b)(1) must be submitted, in a format specified by the Administrator, by February 1, 2004.

(3) The NO_X authorized account representative of the unit shall not submit a request for early reduction credits under paragraph (b)(1) of this section for banked allowances under the Ozone Transport Commission NO_X Budget Program that were allocated for any control period during which the unit made NO_X emission reductions for which he or she submits a request for early reduction credits under paragraph (a) of this section for the unit.

(c) The Administrator will review each early reduction credit request submitted in accordance with paragraph (a) or (b) of this section and will allocate NO_X allowances to NO_X Budget units in a given State and covered by such request as follows:

(1) Upon receipt of each early reduction credit request, the Administrator will make any necessary adjustments to the request to ensure that the amount of the early reduction credits requested meets the requirements of paragraph (a) or (b) of this section.

(2) After February 1, 2004, the Administrator will make available to the public a statement of the total number of early reduction credits requested by NO_X Budget units in the State.

(3) If the State's compliance supplement pool set forth in appendix D of this part has a number of NO_X allowances not less than the amount of early reduction credits in all early reduction credit requests under paragraph (a) or (b) of this section for 2001 through 2003 (as adjusted under paragraph (c)(1) of this section) submitted by February 1, 2004, the Administrator will allocate to each NO_X Budget unit covered by such requests one allowance for each early reduction credit requested (as adjusted under paragraph (c)(1) of this section).

(4) If the State's compliance supplement pool set forth in appendix D of this part has a smaller number of NO_X allowances than the amount of early reduction credits in all early reduction credit requests under paragraph (a) or (b) of this section for 2001 through 2003 (as adjusted under paragraph (c)(1) of this section) submitted by February 1, 2004, the Administrator will allocate NO_X allowances to each NO_X Budget unit covered by such requests according to the following formula and rounding to the nearest whole number of NO_X allowances as appropriate:

Unit's allocation for early reduction credits = Unit's adjusted early reduction credits × (State's compliance supplement pool ÷ Total adjusted early reduction credits for all units)

Where:

"Unit's allocation for early reduction credits" is the number of NO_X allowances allocated to the unit for early reduction credits.

"Unit's adjusted early reduction credits" is the amount of early reduction credits requested for the unit for 2001 and 2002 in early reduction credit requests under paragraph (a) or (b) of this section, as adjusted under paragraph (c)(1) of this section.

"State's compliance supplement pool" is the number of NO_X allowances in the State's compliance supplement pool set forth in appendix D of this part.

"Total adjusted early reduction credits for all units" is the amount of early reduction credits requested for all units for 2001 and 2002 in early reduction credit requests under paragraph (a) or (b) of this section, as adjusted under paragraph (c)(1) of this section.

(5) By April 1, 2004, the Administrator will determine by order the allocations under paragraph (c)(3) or (4) of this section. The Administrator will make available to the public each determination of NO_X allowance allocations and will provide an opportunity for submission of objections to the determination. Objections shall be limited to addressing whether the determination is in accordance with paragraph (c)(1), (3), or (4) of this section. Based on any such objections, the Administrator will adjust each determination to the extent necessary to ensure that it is in accordance with paragraph (c)(1), (3), or (4) of this section.

(6) By May 1, 2004, the Administrator will record the allocations under paragraph (c)(3) or (4) of this section.

(7) NO_X allowances recorded under paragraph (c)(6) of this section may be deducted for compliance under §97.54 for the control period in 2004 or 2005. Notwithstanding §97.55(a), the Administrator will deduct as retired any NO_X allowance that is recorded under paragraph (c)(6) of this section and that is not deducted for compliance under §97.54 for the control period in 2003 or 2004.

[65 FR 2727, Jan. 18, 2000, as amended at 67 FR 21529, Apr. 30, 2002; 69 FR 21646, Apr. 21, 2004]

Subpart F—NO_X Allowance Tracking System

§97.50 NO_X Allowance Tracking System accounts.

(a) *Nature and function of compliance accounts and overdraft accounts.* Consistent with §97.51(a), the Administrator will establish one compliance account for each NO_X Budget unit and one overdraft account for each source with two or more NO_X Budget units. Allocations of NO_X allowances pursuant to subpart E of this part or §97.88, and deductions or transfers of NO_X allowances pursuant to §97.31, §96.54, §96.56, subpart G of this part, or subpart I of this part will be recorded in compliance accounts or overdraft accounts in accordance with this subpart.

(b) *Nature and function of general accounts.* Consistent with §97.51(b), the Administrator will establish, upon request, a general account for any person. Allocations of NO_X allowances pursuant to §97.4(b)(4)(ii) or §97.5(c)(2) and

transfers of allowances pursuant to subpart G of this part will be recorded in general accounts in accordance with this subpart.

§ 97.51 Establishment of accounts.

(a) *Compliance accounts and overdraft accounts.* Upon receipt of a complete account certificate of representation under § 97.13, the Administrator will establish:

(1) A compliance account for each NO_X Budget unit for which the account certificate of representation was submitted; and

(2) An overdraft account for each source for which the account certificate of representation was submitted and that has two or more NO_X Budget units.

(b) *General accounts*—(1) *Application for general account.* (i) Any person may apply to open a general account for the purpose of holding and transferring allowances. An application for a general account may designate one and only one NO_X authorized account representative and one and only one alternate NO_X authorized account representative who may act on behalf of the NO_X authorized account representative. The agreement by which the alternate NO_X authorized account representative is selected shall include a procedure for authorizing the alternate NO_X authorized account representative to act in lieu of the NO_X authorized account representative. A complete application for a general account shall be submitted to the Administrator and shall include the following elements in a format prescribed by the Administrator:

(A) Name, mailing address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the NO_X authorized account representative and any alternate NO_X authorized account representative;

(B) At the option of the NO_X authorized account representative, organization name and type of organization;

(C) A list of all persons subject to a binding agreement for the NO_X authorized account representative and any alternate NO_X authorized account representative to represent their ownership interest with respect to the allowances held in the general account;

(D) The following certification statement by the NO_X authorized account representative and any alternate NO_X authorized account representative: ''I certify that I was selected as the NO_X authorized account representative or the NO_X alternate authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to NO_X allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the NO_X Budget Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any order or decision issued to me by the Administrator or a court regarding the general account.;''

(E) The signature of the NO_X authorized account representative and any alternate NO_X authorized account representative and the dates signed.

(ii) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the application for a general account shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) *Authorization of NO_X authorized account representative.* Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section:

(i) The Administrator will establish a general account for the person or persons for whom the application is submitted.

(ii) The NO_X authorized account representative and any alternate NO_X authorized account representative for the general account shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to NO_X allowances held in the general account in all matters pertaining to the NO_X Budget Trading Program, not withstanding any agreement between the NO_X authorized account representative or any

alternate NO_X authorized account representative and such person. Any such person shall be bound by any order or decision issued to the NO_X authorized account representative or any alternate NO_X authorized account representative by the Administrator or a court regarding the general account.

(iii) Any representation, action, inaction, or submission by any alternate NO_X authorized account representative shall be deemed to be a representation, action, inaction, or submission by the NO_X authorized account representative.

(iv) Each submission concerning the general account shall be submitted, signed, and certified by the NO_X authorized account representative or any alternate NO_X authorized account representative for the persons having an ownership interest with respect to NO_X allowances held in the general account. Each such submission shall include the following certification statement by the NO_X authorized account representative or any alternate NO_X authorizing account representative: ''I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the NO_X allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(v) The Administrator will accept or act on a submission concerning the general account only if the submission has been made, signed, and certified in accordance with paragraph (b)(2)(iv) of this section.

(3) *Changing NO_X authorized account representative and alternate NO_X authorized account representative; changes in persons with ownership interest.* (i) The NO_X authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous NO_X authorized account representative prior to the time and date when the Administrator receives the superseding application for a general account shall be binding on the new NO_X authorized account representative and the persons with an ownership interest with respect to the NO_X allowances in the general account.

(ii) The alternate NO_X authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate NO_X authorized account representative prior to the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate NO_X authorized account representative and the persons with an ownership interest with respect to the NO_X allowances in the general account.

(iii)(A) In the event a new person having an ownership interest with respect to NO_X allowances in the general account is not included in the list of such persons in the account certificate of representation, such new person shall be deemed to be subject to and bound by the account certificate of representation, the representation, actions, inactions, and submissions of the NO_X authorized account representative and any alternate NO_X authorized account representative of the source or unit, and the decisions, orders, actions, and inactions of the Administrator, as if the new person were included in such list.

(B) Within 30 days following any change in the persons having an ownership interest with respect to NO_X allowances in the general account, including the addition of persons, the NO_X authorized account representative

or any alternate NO_X authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the NO_X allowances in the general account to include the change.

(4) *Objections concerning NO_X authorized account representative.* (i) Once a complete application for a general account under paragraph (b)(1) of this section has been submitted and received, the Administrator will rely on the application unless and until a superseding complete application for a general account under paragraph (b)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (b)(3)(i) or (ii) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the NO_X authorized account representative or any alternative NO_X authorized account representative for a general account shall affect any representation, action, inaction, or submission of the NO_X authorized account representative or any alternative NO_X authorized account representative or the finality of any decision or order by the Administrator under the NO_X Budget Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the NO_X authorized account representative or any alternative NO_X authorized account representative for a general account, including private legal disputes concerning the proceeds of NO_X allowance transfers.

(c) *Account identification.* The Administrator will assign a unique identifying number to each account established under paragraph (a) or (b) of this section.

[65 FR 2727, Jan. 18, 2000, as amended at 69 FR 21646, Apr. 21, 2004]

§ 97.52 NO_X Allowance Tracking System responsibilities of NO_X authorized account representative.

(a) Following the establishment of a NO_X Allowance Tracking System account, all submissions to the Administrator pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of NO_X allowances in the account, shall be made only by the NO_X authorized account representative for the account.

(b) *Authorized account representative identification.* The Administrator will assign a unique identifying number to each NO_X authorized account representative.

§ 97.53 Recordation of NO_X allowance allocations.

(a) The Administrator will record the NO_X allowances for 2004 for a NO_X Budget unit allocated under subpart E of this part in the unit's compliance account, except for NO_X allowances under § 97.4(b)(4)(ii) or § 97.5(c)(2), which will be recorded in the general account specified by the owners and operators of the unit. The Administrator will record NO_X allowances for 2004 for a NO_X Budget opt-in unit in the unit's compliance account as allocated under § 97.88(a).

(b) By May 1, 2003, the Administrator will record the NO_X allowances for 2005 for a NO_X Budget unit allocated under subpart E of this part in the unit's compliance account, except for NO_X allowances under § 97.4(b)(4)(ii) or § 97.5(c)(2), which will be recorded in the general account specified by the owners and operators of the unit. The Administrator will record NO_X allowances for 2005 for a NO_X Budget opt-in unit in the unit's compliance account as allocated under § 97.88(a).

(c) By May 1, 2003, the Administrator will record the NO_X allowances for 2006 for a NO_X Budget unit allocated under subpart E of this part in the unit's compliance account, except for NO_X allowances under § 97.4(b)(4)(ii) or § 97.5(c)(2), which will be recorded in the general account specified by the owners and operators of the unit. The Administrator will record NO_X allowances for 2006 for a NO_X Budget opt-in unit in the unit's compliance account as allocated under § 97.88(a).

(d) By May 1, 2004, the Administrator will record the NO_X allowances for 2007 for a NO_X Budget unit allocated under subpart E of this part in the unit's

compliance account, except for NO_X allowances under §97.4(b)(4)(ii) or §97.5(c)(2), which will be recorded in the general account specified by the owners and operators of the unit. The Administrator will record NO_X allowances for 2007 for a NO_X Budget opt-in unit in the unit's compliance account as allocated under §97.88(a).

(e) Each year starting with 2005, after the Administrator has made all deductions from a NO_X Budget unit's compliance account and the overdraft account pursuant to §97.54 (except deductions pursuant to §97.54(d)(2)), the Administrator will record:

(1) NO_X allowances, in the compliance account, as allocated to the unit under subpart E of this part for the third year after the year of the control period for which such deductions were or could have been made;

(2) NO_X allowances, in the general account specified by the owners and operators of the unit, as allocated under §97.4(b)(4)(ii) or §97.5(c)(2) for the third year after the year of the control period for which such deductions are or could have been made; and

(3) NO_X allowances, in the compliance account, as allocated to the unit under §97.88(a).

(f) *Serial numbers for allocated NO_X allowances*. When allocating NO_X allowances to a NO_X Budget unit and recording them in an account, the Administrator will assign each NO_X allowance a unique identification number that will include digits identifying the year for which the NO_X allowance is allocated.

[65 FR 2727, Jan. 18, 2000, as amended at 67 FR 21530, Apr. 30, 2002]

§97.54 Compliance.

(a) NO_X allowance transfer deadline. The NO_X allowances are available to be deducted for compliance with a unit's NO_X Budget emissions limitation for a control period in a given year only if the NO_X allowances:

(1) Were allocated for a control period in a prior year or the same year; and

(2) Are held in the unit's compliance account, or the overdraft account of the source where the unit is located, as of the NO_X allowance transfer deadline for that control period or are transferred into the compliance account or overdraft account by a NO_X allowance transfer correctly submitted for recordation under §97.60 by the NO_X allowance transfer deadline for that control period.

(b) *Deductions for compliance*. (1) Following the recordation, in accordance with §97.61, of NO_X allowance transfers submitted for recordation in the unit's compliance account or the overdraft account of the source where the unit is located by the NO_X allowance transfer deadline for a control period, the Administrator will deduct NO_X allowances available under paragraph (a) of this section to cover the unit's NO_X emissions (as determined in accordance with subpart H of this part), or to account for actual heat input under §97.42(e), for the control period:

(i) From the compliance account; and

(ii) Only if no more NO_X allowances available under paragraph (a) of this section remain in the compliance account, from the overdraft account. In deducting allowances for units at the source from the overdraft account, the Administrator will begin with the unit having the compliance account with the lowest account number and end with the unit having the compliance account with the highest account number (with account numbers sorted beginning with the left-most character and ending with the right-most character and the letter characters assigned values in alphabetical order and less than all numeric characters).

(2) The Administrator will deduct NO_X allowances first under paragraph (b)(1)(i) of this section and then under paragraph (b)(1)(ii) of this section:

(i) Until the number of NO_X allowances deducted for the control period equals the number of tons of NO_X emissions, determined in accordance with subpart H of this part, from the unit for the control period for which compliance is being determined, plus the number of NO_X allowances required for deduction to account for actual heat input under §97.42(e) for the control period; or

(ii) Until no more NO_X allowances available under paragraph (a) of this section remain in the respective account.

(c)(1) *Identification of NO_X allowances by serial number*. The NO_X authorized

account representative for each compliance account may identify by serial number the NO_X allowances to be deducted from the unit's compliance account under paragraph (b), (d), (e), or (f) of this section. Such identification shall be made in the compliance certification report submitted in accordance with § 97.30.

(2) *First-in, first-out.* The Administrator will deduct NO_X allowances for a control period from the compliance account, in the absence of an identification or in the case of a partial identification of NO_X allowances by serial number under paragraph (c)(1) of this section, or the overdraft account on a first-in, first-out (FIFO) accounting basis in the following order:

(i) Those NO_X allowances that were allocated for the control period to the unit under subpart E or I of this part;

(ii) Those NO_X allowances that were allocated for the control period to any unit and transferred and recorded in the account pursuant to subpart G of this part, in order of their date of recordation;

(iii) Those NO_X allowances that were allocated for a prior control period to the unit under subpart E or I of this part; and

(iv) Those NO_X allowances that were allocated for a prior control period to any unit and transferred and recorded in the account pursuant to subpart G of this part, in order of their date of recordation.

(d) *Deductions for excess emissions.* (1) After making the deductions for compliance under paragraph (b) of this section, the Administrator will deduct from the unit's compliance account or the overdraft account of the source where the unit is located a number of NO_X allowances, allocated for a control period after the control period in which the unit has excess emissions, equal to three times the number of the unit's excess emissions.

(2) If the compliance account or overdraft account does not contain sufficient NO_X allowances, the Administrator will deduct the required number of NO_X allowances, regardless of the control period for which they were allocated, whenever NO_X allowances are recorded in either account.

(3) Any allowance deduction required under paragraph (d) of this section shall not affect the liability of the owners and operators of the NO_X Budget unit for any fine, penalty, or assessment, or their obligation to comply with any other remedy, for the same violation, as ordered under the Clean Air Act or applicable State law. The following guidelines will be followed in assessing fines, penalties or other obligations:

(i) For purposes of determining the number of days of violation, if a NO_X Budget unit has excess emissions for a control period, each day in the control period (153 days) constitutes a day in violation unless the owners and operators of the unit demonstrate that a lesser number of days should be considered.

(ii) Each ton of excess emissions is a separate violation.

(e) *Deductions for units sharing a common stack.* In the case of units sharing a common stack and having emissions that are not separately monitored or apportioned in accordance with subpart H of this part:

(1) The NO_X authorized account representative of the units may identify the percentage of NO_X allowances to be deducted from each such unit's compliance account to cover the unit's share of NO_X emissions from the common stack for a control period. Such identification shall be made in the compliance certification report submitted in accordance with § 97.30.

(2) Notwithstanding paragraph (b)(2)(i) of this section, the Administrator will deduct NO_X allowances for each such unit until the number of NO_X allowances deducted equals the unit's identified percentage under paragraph (e)(1) of this section or, if no percentage is identified, an equal percentage for each unit multiplied by the number of tons of NO_X emissions, as determined in accordance with subpart H of this part, from the common stack for the control period for which compliance is being determined. In addition to the deductions under the first sentence of this paragraph (e)(1), the Administrator will deduct NO_X allowances for each such unit until the number of NO_X allowances deducted equals the number of NO_X allowances required to

account for actual heat input under §97.42(e) for the unit for the control period.

(f) *Deduction of banked allowances.* Each year starting in 2006, after the Administrator has completed the designation of banked NO_X allowances under §97.55(b) and before May 1 of the year, the Administrator will determine the extent to which banked NO_X allowances otherwise available under paragraph (a) of this section are available for compliance in the control period for the current year, as follows. For each State NO_X Budget Trading Program that is established, and approved and administered by the Administrator pursuant to §51.121 of this chapter, the terms ''compliance account'' or ''compliance accounts'', ''overdraft account'' or ''overdraft accounts'', ''general account'' or ''general accounts'', ''States'', and ''trading program budgets under §97.40'' in paragraphs (f)(1) through (f)(3) of this section shall be read to include respectively: A compliance account or compliance accounts established under such State NO_X Budget Trading Program; an overdraft account or overdraft accounts established under such State NO_X Budget Trading Program; a general account or general accounts established under such State NO_X Budget Trading Program; the State or portion of a State covered by such State NO_X Budget Trading Program; and the trading program budget of the State or portion of a State covered by such State NO_X Budget Trading Program.

(1) The Administrator will determine the total number of banked NO_X allowances held in compliance accounts, overdraft accounts, or general accounts.

(2) If the total number of banked NO_X allowances determined, under paragraph (f)(1) of this section, to be held in compliance accounts, overdraft accounts, or general accounts is less than or equal to 10 percent of the sum of the trading program budgets under §97.40 for all States for the control period, any banked NO_X allowance may be deducted for compliance in accordance with paragraphs (a) through (e) of this section.

(3) If the total number of banked NO_X allowances determined, under paragraph (f)(1) of this section, to be held in compliance accounts, overdraft accounts, or general accounts exceeds 10 percent of the sum of the trading program budgets under §97.40 for all States for the control period, any banked allowance may be deducted for compliance in accordance with paragraphs (a) through (e) of this section, except as follows:

(i) The Administrator will determine the following ratio: 0.10 multiplied by the sum of the trading program budgets under §97.40 for all States for the control period and divided by the total number of banked NO_X allowances determined, under paragraph (f)(1) of this section, to be held in compliance accounts, overdraft accounts, or general accounts.

(ii) The Administrator will multiply the number of banked NO_X allowances in each compliance account or overdraft account by the ratio determined under paragraph (f)(3)(i) of this section. The resulting product is the number of banked NO_X allowances in the account that may be deducted for compliance in accordance with paragraphs (a) through (e) of this section. Any banked NO_X allowances in excess of the resulting product may be deducted for compliance in accordance with paragraphs (a) through (e) of this section, except that, if such NO_X allowances are used to make a deduction under paragraph (b) or (e) of this section, two (rather than one) such NO_X allowances shall authorize up to one ton of NO_X emissions during the control period and must be deducted for each deduction of one NO_X allowance required under paragraph (b) or (e) of this section.

(g) *Recordation of deductions.* The Administrator will record in the appropriate compliance account or overdraft account all deductions from such an account pursuant to paragraph (b), (d), (e), or (f) of this section.

[65 FR 2727, Jan. 18, 2000, as amended at 67 FR 21530, Apr. 30, 2002; 69 FR 21646, Apr. 21, 2004]

§97.55 Banking.

NO_X allowances may be banked for future use or transfer in a compliance account, an overdraft account, or a general account, as follows:

(a) Any NO_X allowance that is held in a compliance account, an overdraft account, or a general account will remain in such account unless and until the NO_X allowance is deducted or transferred under § 97.31, § 97.54, § 97.56, or subpart G or I of this part.

(b) The Administrator will designate, as a ''banked'' NO_X allowance, any NO_X allowance that remains in a compliance account, an overdraft account, or a general account after the Administrator has made all deductions for a given control period from the compliance account or overdraft account pursuant to § 97.54 (except deductions pursuant to § 97.54(d)(2)) and that was allocated for that control period or a control period in a prior year.

§ 97.56 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any NO_X Allowance Tracking System account. Within 10 business days of making such correction, the Administrator will notify the NO_X authorized account representative for the account.

§ 97.57 Closing of general accounts.

(a) The NO_X authorized account representative of a general account may instruct the Administrator to close the account by submitting a statement requesting deletion of the account from the NO_X Allowance Tracking System and by correctly submitting for recordation under § 97.60 an allowance transfer of all NO_X allowances in the account to one or more other NO_X Allowance Tracking System accounts.

(b) If a general account shows no activity for a period of a year or more and does not contain any NO_X allowances, the Administrator may notify the NO_X authorized account representative for the account that the account will be closed and deleted from the NO_X Allowance Tracking System following 20 business days after the notice is sent. The account will be closed after the 20-day period unless before the end of the 20-day period the Administrator receives a correctly submitted transfer of NO_X allowances into the account under § 97.60 or a statement submitted by the NO_X authorized account representative demonstrating to the satisfaction of the Administrator good cause as to why the account should not be closed.

Subpart G—NO_X Allowance Transfers

§ 97.60 Submission of NO_X allowance transfers.

The NO_X authorized account representatives seeking recordation of a NO_X allowance transfer shall submit the transfer to the Administrator. To be considered correctly submitted, the NO_X allowance transfer shall include the following elements in a format specified by the Administrator:

(a) The numbers identifying both the transferor and transferee accounts;

(b) A specification by serial number of each NO_X allowance to be transferred; and

(c) The printed name and signature of the NO_X authorized account representative of the transferor account and the date signed.

§ 97.61 EPA recordation.

(a) Within 5 business days of receiving a NO_X allowance transfer, except as provided in paragraph (b) of this section, the Administrator will record a NO_X allowance transfer by moving each NO_X allowance from the transferor account to the transferee account as specified by the request, provided that:

(1) The transfer is correctly submitted under § 97.60; and

(2) The transferor account includes each NO_X allowance identified by serial number in the transfer.

(b) A NO_X allowance transfer that is submitted for recordation following the NO_X allowance transfer deadline and that includes any NO_X allowances allocated for a control period prior to or the same as the control period to which the NO_X allowance transfer deadline applies will not be recorded until after the Administrator completes the recordation of NO_X allowance allocations under § 97.53 for the control period in the fourth year after the control period to which the NO_X allowance transfer deadline applies.

(c) Where a NO_X allowance transfer submitted for recordation fails to meet the requirements of paragraph (a) of

this section, the Administrator will not record such transfer.

[65 FR 2727, Jan. 18, 2000, as amended at 69 FR 21647, Apr. 21, 2004]

§97.62 Notification.

(a) *Notification of recordation.* Within 5 business days of recordation of a NO_X allowance transfer under §97.61, the Administrator will notify the NO_X authorized account representatives of both the transferor and transferee accounts.

(b) *Notification of non-recordation.* Within 10 business days of receipt of a NO_X allowance transfer that fails to meet the requirements of §97.61(a), the Administrator will notify the NO_X authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer; and

(2) The reasons for such non-recordation.

(c) Nothing in this section shall preclude the submission of a NO_X allowance transfer for recordation following notification of non-recordation.

Subpart H—Monitoring and Reporting

§97.70 General requirements.

The owners and operators, and to the extent applicable, the NO_X authorized account representative of a NO_X Budget unit, shall comply with the monitoring, recordkeeping, and reporting requirements as provided in this subpart and in subpart H of part 75 of this chapter. For purposes of complying with such requirements, the definitions in §97.2 and in §72.2 of this chapter shall apply, and the terms ''affected unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') in part 75 of this chapter shall be deemed to refer to the terms ''NO_X Budget unit,'' ''NO_X authorized account representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') respectively, as defined in §97.2. The owner or operator of a unit that is not a NO_X Budget unit but that is monitored under §75.72(b)(2)(ii) of this chapter shall comply with the monitoring, recordkeeping, and reporting requirements for a NO_X Budget unit under this part.

(a) *Requirements for installation, certification, and data accounting.* The owner or operator of each NO_X Budget unit shall meet the following requirements. These provisions shall also apply to a unit for which an application for a NO_X Budget opt-in permit is submitted and not denied or withdrawn, as provided in subpart I of this part:

(1) Install all monitoring systems required under this subpart for monitoring NO_X mass emissions. This includes all systems required to monitor NO_X emission rate, NO_X concentration, heat input rate, and stack flow rate, in accordance with §§75.71 and 75.72 of this chapter.

(2) Install all monitoring systems for monitoring heat input rate.

(3) Successfully complete all certification tests required under §97.71 and meet all other requirements of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraphs (a)(1) and (2) of this section.

(4) Record, report, and quality-assure the data from the monitoring systems under paragraphs (a)(1) and (2) of this section.

(b) *Compliance deadlines.* The owner or operator shall meet the certification and other requirements of paragraphs (a)(1) through (a)(3) of this section on or before the following dates. The owner or operator shall record, report and quality-assure the data from the monitoring systems under paragraphs (a)(1) and (a)(2) of this section on and after the following dates.

(1) For the owner or operator of a NO_X Budget unit for which the owner or operator intends to apply for early reduction credits under §97.43, by May 1, 2001. If the owner or operator of a NO_X Budget unit fails to meet this deadline, he or she is not eligible to apply for early reduction credits and is subject to the deadline under paragraph (b)(2) of this section.

(2) For the owner or operator of a NO_X Budget unit under §97.4(a) that commences operation before January 1, 2003 and that is not subject to or does not meet the deadline under paragraph (b)(1) of this section, by May 1, 2003.

(3) For the owner or operator of a NO_X Budget unit under § 97.4(a) that commences operation on or after January 1, 2003 and that reports on an annual basis under § 97.74(d) by the following dates:

(i) The earlier of 90 unit operating days after the date on which the unit commences commercial operation or 180 calendar days after the date on which the unit commences commercial operation; or

(ii) May 1, 2003, if the compliance date under paragraph (b)(3)(i) of this section is before May 1, 2003.

(4) For the owner or operator of a NO_X Budget unit under § 97.4(a) that commences operation on or after January 1, 2003 and that reports on a control period basis under § 97.74(d)(2)(ii), by the following dates:

(i) The earlier of 90 unit operating days or 180 calendar days after the date on which the unit commences commercial operation, if this compliance date is during a control period; or

(ii) May 1 immediately following the compliance date under paragraph (b)(4)(i) of this section, if such compliance date is not during a control period.

(5) For the owner or operator of a NO_X Budget unit that has a new stack or flue or add-on NO_X emission controls for which construction is completed after the applicable deadline under paragraph (b)(1), (b)(2), (b)(3), or (b)(4) of this section or under subpart I of this part and that reports on an annual basis under § 97.74(d), by the earlier of 90 unit operating days or 180 calendar days after the date on which emissions first exit to the atmosphere through the new stack or flue or add-on NO_X emission controls.

(6) For the owner or operator of a NO_X Budget unit that has a new stack or flue or add-on NO_X emission controls for which construction is completed after the applicable deadline under paragraph (b)(1), (b)(2), (b)(3), or (b)(4) of this section or under subpart I of this part and that reports on a control period basis under § 97.74(d)(2)(ii), by the following dates:

(i) The earlier of 90 unit operating days or 180 calendar days after the date on which emissions first exit to the atmosphere through the new stack or flue or add-on NO_X emission controls, if this compliance date is during a control period; or

(ii) May 1 immediately following the compliance date under paragraph (b)(6)(i) of this section, if such compliance date is not during a control period.

(7) For the owner or operator of a unit for which an application for a NO_X Budget opt-in permit is submitted and not denied or withdrawn, by the date specified under subpart I of this part.

(c) *Commencement of data reporting.* (1) The owner or operator of NO_X Budget units under paragraph (b)(1) or (b)(2) of this section shall determine, record and report NO_X mass emissions, heat input rate, and any other values required to determine NO_X mass emissions (*e.g.*, NO_X emission rate and heat input rate, or NO_X concentration and stack flow rate) in accordance with § 75.70(g) of this chapter, beginning on the first hour of the applicable compliance deadline in paragraph (b)(1) or (b)(2) of this section.

(2) The owner or operator of a NO_X Budget unit under paragraph (b)(3) or (b)(4) of this section shall determine, record and report NO_X mass emissions, heat input rate, and any other values required to determine NO_X mass emissions (*e.g.*, NO_X emission rate and heat input rate, or NO_X concentration and stack flow rate) and electric and thermal output in accordance with § 75.70(g) of this chapter, beginning on:

(i) The date and hour on which the unit commences operation, if the date and hour on which the unit commences operation is during a control period; or

(ii) The first hour on May 1 of the first control period after the date and hour on which the unit commences operation, if the date and hour on which the unit commences operation is not during a control period.

(3) Notwithstanding paragraphs (c)(2)(i) and (c)(2)(ii) of this section, the owner or operator may begin reporting NO_X mass emission data and heat input data before the date and hour under paragraph (c)(2)(i) or (c)(2)(ii) of this section if the unit reports on an annual basis and if the required monitoring systems are certified before the applicable date and hour under paragraph (c)(1) or (c)(2) of this section.

(d) *Prohibitions.* (1) No owner or operator of a NO_X Budget unit shall use any alternative monitoring system, alternative reference method, or any other alternative for the required continuous emission monitoring system without having obtained prior written approval in accordance with §97.75.

(2) No owner or operator of a NO_X Budget unit shall operate the unit so as to discharge, or allow to be discharged, NO_X emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of this subpart and part 75 of this chapter, except as provided in §75.74 of this chapter.

(3) No owner or operator of a NO_X Budget unit shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording NO_X mass emissions discharged into the atmosphere, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter or except as provided in §75.74 of this chapter.

(4) No owner or operator of a NO_X Budget unit shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved emission monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by an exemption under §97.4(b) or §97.5 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the permitting authority for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The NO_X authorized account representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with §97.71(b)(2).

[65 FR 2727, Jan. 18, 2000, as amended at 67 FR 21530, Apr. 30, 2002; 69 FR 21647, Apr. 21, 2004]

§97.71 Initial certification and recertification procedures.

(a) The owner or operator of a NO_X Budget unit that is subject to an Acid Rain emissions limitation shall comply with the initial certification and recertification procedures of part 75 of this chapter for NO_X-diluent CEMS, flow monitors, NO_X concentration CEMS, or excepted monitoring systems under appendix E of part 75 of this chapter for NO_X. under appendix D for heat input, or under §75.19 for NO_X and heat input, except that:

(1) If, prior to January 1, 1998, the Administrator approved a petition under §75.17(a) or (b) of this chapter for apportioning the NO_X emission rate measured in a common stack or a petition under §75.66 of this chapter for an alternative to a requirement in §75.17 of this chapter, the NO_X authorized account representative shall resubmit the petition to the Administrator under §97.75(a) to determine if the approval applies under the NO_X Budget Trading Program.

(2) For any additional CEMS required under the common stack provisions in §75.72 of this chapter or for any NO_X concentration CEMS used under the provisions of §75.71(a)(2) of this chapter, the owner or operator shall meet the requirements of paragraph (b) of this section.

(b) The owner or operator of a NO_X Budget unit that is not subject to an Acid Rain emissions limitation shall comply with the following initial certification and recertification procedures. The owner or operator of such a unit that qualifies to use the low mass emissions excepted monitoring methodology under §75.19 of this chapter or that qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall comply with the following procedures, as modified by paragraph (c) or (d) of this section. The owner or operator of a NO_X Budget unit that is subject to an Acid

Rain emissions limitation and that requires additional CEMS under the common stack provisions in § 75.72 of this chapter or uses a NO_X concentration CEMS under § 75.71(a)(2) of this chapter shall comply with the following procedures.

(1) *Requirements for initial certification.* The owner or operator shall ensure that each emission monitoring system required by subpart H of part 75 of this chapter (which includes the automated data acquisition and handling system) successfully completes all of the initial certification testing required under § 75.20 of this chapter by the applicable deadline in § 97.70(b). In addition, whenever the owner or operator installs an emission monitoring system in order to meet the requirements of this part in a location where no such emission monitoring system was previously installed, initial certification in accordance with § 75.20 of this chapter is required.

(2) *Requirements for recertification.* Whenever the owner or operator makes a replacement, modification, or change in a certified emission monitoring system that may significantly affect the ability of the system to accurately measure or record NO_X mass emissions or heat input rate or to meet the requirements of § 75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the emission monitoring system in accordance with § 75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify the continuous emissions monitoring system in accordance with § 75.20(b) of this chapter. Examples of changes that require recertification include: replacement of the analyzer, complete replacement of an existing continuous emission monitoring system, or change in location or orientation of the sampling probe or site.

(3) *Certification approval process for initial certification and recertification*—(i) *Notification of certification.* The NO_X authorized account representative shall submit to the Administrator, the appropriate EPA Regional Office and the permitting authority written notice of the dates of certification in accordance with § 97.73.

(ii) *Certification application.* The NO_X authorized account representative shall submit to the Administrator, the appropriate EPA Regional Office and the permitting authority a certification application for each emission monitoring system required under subpart H of part 75 of this chapter. A complete certification application shall include the information specified in subpart H of part 75 of this chapter.

(iii) Except for units using the low mass emission excepted methodology under § 75.19 of this chapter, the provisional certification date for a monitor shall be determined in accordance with § 75.20(a)(3) of this chapter. A provisionally certified monitor may be used under the NO_X Budget Trading Program for a period not to exceed 120 days after receipt by the Administrator of the complete certification application for the monitoring system under paragraph (b)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the Administrator does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of receipt of the complete certification application by the Administrator.

(iv) *Certification application formal approval process.* The Administrator will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under paragraph (b)(3)(ii) of this section. In the event the Administrator does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the NO_X Budget Trading Program.

(A) *Approval notice.* If the certification application is complete and shows that each monitoring system

meets the applicable performance requirements of part 75 of this chapter, then the Administrator will issue a written notice of approval of the certification application within 120 days of receipt.

(B) *Incomplete application notice.* A certification application will be considered complete when all of the applicable information required to be submitted under paragraph (b)(3)(ii) of this section has been received by the Administrator. If the certification application is not complete, then the Administrator will issue a written notice of incompleteness that sets a reasonable date by which the NO_X authorized account representative must submit the additional information required to complete the certification application. If the NO_X authorized account representative does not comply with the notice of incompleteness by the specified date, then the Administrator may issue a notice of disapproval under paragraph (b)(3)(iv)(C) of this section. The 120-day review period shall not begin prior to receipt of a complete certification application.

(C) *Disapproval notice.* If the certification application shows that any monitoring system or component thereof does not meet the performance requirements of this part, or if the certification application is incomplete and the requirement for disapproval under paragraph (b)(3)(iv)(B) of this section has been met, then the Administrator will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the Administrator and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification (as defined under §75.20(a)(3) of this chapter). The owner or operator shall follow the procedures for loss of certification in paragraph (b)(3)(v) of this section for each monitoring system that is disapproved for initial certification.

(D) *Audit decertification.* The Administrator may issue a notice of disapproval of the certification status of a monitor in accordance with §97.72(b).

(v) *Procedures for loss of certification.* If the Administrator issues a notice of disapproval of a certification application under paragraph (b)(3)(iv)(C) of this section or a notice of disapproval of certification status under paragraph (b)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each hour of unit operation during the period of invalid data specified under §75.20(a)(4)(iii), §75.20(b)(5), §75.20(h)(4), or §75.21(e) and continuing until the date and hour specified under §75.20(a)(5)(i) of this chapter:

(*1*) For units that the owner or operator intends to monitor or monitors for NO_X emission rate and heat input rate or intends to determine or determines NO_X mass emissions using the low mass emission excepted methodology under §75.19 of this chapter, the maximum potential NO_X emission rate and the maximum potential hourly heat input of the unit; and

(*2*) For units that the owner or operator intends to monitor or monitors for NO_X mass emissions using a NO_X pollutant concentration monitor and a flow monitor, the maximum potential concentration of NO_X and the maximum potential flow rate of the unit under section 2 of appendix A of part 75 of this chapter.

(B) The NO_X authorized account representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (b)(3)(i) and (ii) of this section.

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the Administrator's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(c) *Initial certification and recertification procedures for low mass emission units using the excepted methodologies under §75.19 of this chapter.* The owner or operator of a gas-fired or oil-fired unit using the low mass emissions excepted methodology under §75.19 of this chapter and not subject to an Acid Rain emissions limitation shall meet the applicable general operating requirements of §75.10 of this chapter and

the applicable requirements of § 75.19 of this chapter. The owner or operator of such a unit shall also meet the applicable certification and recertification procedures of paragraph (b) of this section, except that the excepted methodology shall be deemed provisionally certified for use under the NO_X Budget Trading Program as of the date on which a complete certification application is received by the Administrator. The methodology shall be considered to be certified either upon receipt of a written notice of approval from the Administrator or, if such notice is not provided, at the end of the Administrator's 120 day review period. However, a provisionally certified or certified low mass emissions excepted methodology shall not be used to report data under the NO_X Budget Trading Program prior to the applicable commencement date specified in § 75.19(a)(1)(ii) of this chapter.

(d) *Certification/recertification procedures for alternative monitoring systems.* The NO_X authorized account representative of each unit not subject to an Acid Rain emissions limitation for which the owner or operator intends to use an alternative monitoring system approved by the Administrator under subpart E of part 75 of this chapter shall comply with the applicable certification procedures of paragraph (b) of this section before using the system under the NO_X Budget Trading Program. The NO_X authorized account representative shall also comply with the applicable recertification procedures of paragraph (b) of this section. Section 75.20(f) of this chapter shall apply to such alternative monitoring system.

[65 FR 2727, Jan. 18, 2000, as amended at 69 FR 21647, Apr. 21, 2004]

§ 97.72 Out of control periods.

(a) Whenever any emission monitoring system fails to meet the quality assurance or data validation requirements of part 75 of this chapter, data shall be substituted using the applicable procedures in subpart D, subpart H, appendix D, or appendix E of part 75 of this chapter.

(b) *Audit decertification.* Whenever both an audit of an emission monitoring system and a review of the initial certification or recertification application reveal that any system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under § 97.71 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the Administrator will issue a notice of disapproval of the certification status of such system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the permitting authority or the Administrator. By issuing the notice of disapproval, the Administrator revokes prospectively the certification status of the system. The data measured and recorded by the system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the system. The owner or operator shall follow the initial certification or recertification procedures in § 97.71 for each disapproved system.

[65 FR 2727, Jan. 18, 2000, as amended at 69 FR 21648, Apr. 21, 2004]

§ 97.73 Notifications.

(a) The NO_X authorized account representative for a NO_X Budget unit shall submit written notice to the Administrator, the appropriate EPA Regional Office, and the permitting authority in accordance with § 75.61 of this chapter.

(b) For any unit that does not have an Acid Rain emissions limitation, the permitting authority may waive the requirement to notify the permitting authority in paragraph (a) of this section.

§ 97.74 Recordkeeping and reporting.

(a) *General provisions.* (1) The NO_X authorized account representative shall comply with all recordkeeping and reporting requirements in this section, with the recordkeeping and reporting requirements under § 75.73 of this chapter, and with the requirements of § 97.10(e)(1).

(2) If the NO_X authorized account representative for a NO_X Budget unit subject to an Acid Rain emission limitation who signed and certified any submission that is made under subpart F or G of part 75 of this chapter and that includes data and information required under this subpart or subpart H of part 75 of this chapter is not the same person as the designated representative or the alternative designated representative for the unit under part 72 of this chapter, then the submission must also be signed by the designated representative or the alternative designated representative.

(b) *Monitoring plans.* (1) The owner or operator of a unit subject to an Acid Rain emissions limitation shall comply with requirements of §75.62 of this chapter, except that the monitoring plan shall also include all of the information required by subpart H of part 75 of this chapter.

(2) The owner or operator of a unit that is not subject to an Acid Rain emissions limitation shall comply with requirements of §75.62 of this chapter, except that the monitoring plan is only required to include the information required by subpart H of part 75 of this chapter.

(c) *Certification applications.* The NO_X authorized account representative shall submit an application to the Administrator, the appropriate EPA Regional Office, and the permitting authority within 45 days after completing all initial certification or recertification tests required under §97.71 including the information required under subpart H of part 75 of this chapter.

(d) *Quarterly reports.* The NO_X authorized account representative shall submit quarterly reports, as follows:

(1) If a unit is subject to an Acid Rain emission limitation or if the owner or operator of the NO_X budget unit chooses to meet the annual reporting requirements of this subpart H, the NO_X authorized account representative shall submit a quarterly report for each calendar quarter beginning with:

(i) For a unit for which the owner or operator intends to apply or applies for the early reduction credits under §97.43, the calendar quarter that covers May 1, 2000 through June 30, 2000. The NO_X mass emission data shall be recorded and reported from the first hour on May 1, 2000; or

(ii) For a unit that commences operation before January 1, 2003 and that is not subject to paragraph (d)(1)(i) of this section, the calendar quarter covering May 1, 2003 through June 30, 2003. The NO_X mass emission data shall be recorded and reported from the first hour on May 1, 2003; or

(iii) For a unit that commences operation on or after January 1, 2003:

(A) The calendar quarter in which the unit commences operation, if unit operation commences during a control period. The NO_X mass emission data shall be recorded and reported from the date and hour when the unit commences operation; or

(B) The calendar quarter which includes May 1 through June 30 of the first control period following the date on which the unit commences operation, if the unit does not commence operation during a control period. The NO_X mass emission data shall be recorded and reported from the first hour on May 1 of that control period; or

(iv) A calendar quarter before the quarter specified in paragraph (d)(1)(i), (d)(1)(ii), or (d)(1)(iii)(B) of this section, if the owner or operator elects to begin reporting early under §97.70(c)(3).

(2) If a NO_X budget unit is not subject to an Acid Rain emission limitation, then the NO_X authorized account representative shall either:

(i) Meet all of the requirements of part 75 related to monitoring and reporting NO_X mass emissions during the entire year and meet the deadlines specified in paragraph (d)(1) of this section; or

(ii) Submit quarterly reports, documenting NO_X mass emissions from the unit, only for the period from May 1 through September 30 of each year and including the data described in §75.74(c)(6) of this chapter. The NO_X authorized account representative shall submit such quarterly reports, beginning with:

(A) For a unit for which the owner or operator intends to apply or applies for the early reduction credits under §97.43, the calendar quarter that covers May 1, 2000 through June 30, 2000. The

NO_X mass emission data shall be recorded and reported from the first hour on May 1, 2000; or

(B) For a unit that commences operation before January 1, 2003 and that is not subject to paragraph (d)(2)(ii)(A) of this section, the calendar quarter covering May 1, 2003 through June 30, 2003. The NO_X mass emission data shall be recorded and reported from the first hour on May 1, 2003; or

(C) For a unit that commences operation on or after January 1, 2003 and during a control period, the calendar quarter in which the unit commences operation. The NO_X mass emission data shall be recorded and reported from the date and hour when the unit commences operation; or

(D) For a unit that commences operation on or after January 1, 2003 and not during a control period, the calendar quarter which includes May 1 through June 30 of the first control period following the date on which the unit commences operation. The NO_X mass emission data shall be recorded and reported from the first hour on May 1 of that control period.

(3) The NO_X authorized account representative shall submit each quarterly report to the Administrator within 30 days following the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in subpart H of part 75 of this chapter and § 75.64 of this chapter.

(i) For units subject to an Acid Rain emissions limitation, quarterly reports shall include all of the data and information required in subpart H of part 75 of this chapter for each NO_X Budget unit (or group of units using a common stack) and the data and information required in subpart G of part 75 of this chapter.

(ii) For units not subject to an Acid Rain emissions limitation, quarterly reports are only required to include all of the data and information required in subpart H of part 75 of this chapter for each NO_X Budget unit (or group of units using a common stack).

(4) *Compliance certification.* The NO_X authorized account representative shall submit to the Administrator a compliance certification in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(i) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications;

(ii) For a unit with add-on NO_X emission controls and for all hours where data are substituted in accordance with § 75.34(a)(1) of this chapter, the add-on emission controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B of part 75 of this chapter and the substitute values do not systematically underestimate NO_X emissions; and

(iii) For a unit that is reporting on a control period basis under paragraph (d)(2)(ii) of this section, the NO_X emission rate and NO_X concentration values substituted for missing data under subpart D of part 75 of this chapter are calculated using only values from a control period and do not systematically underestimate NO_X emissions.

[65 FR 2727, Jan. 18, 2000, as amended at 67 FR 21530, Apr. 30, 2002; 69 FR 21648, Apr. 21, 2004]

§ 97.75 Petitions.

(a) The NO_X authorized account representative of a NO_X Budget unit may submit a petition under § 75.66 of this chapter to the Administrator requesting approval to apply an alternative to any requirement of this subpart.

(b) Application of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that the petition is approved by the Administrator under § 75.66 of this chapter.

§ 97.76 Additional requirements to provide heat input data.

The owner or operator of a NO_X Budget unit that monitors and reports NO_X mass emissions using a NO_X concentration system and a flow system shall also monitor and report heat input rate at the unit level using the procedures set forth in part 75 of this chapter.

Subpart I—Individual Unit Opt-ins

§97.80 Applicability.

A unit that is in a State (as defined in §97.2), is not a NO_X Budget unit under §97.4(a), is not a unit exempt under §97.4(b), vents all of its emissions to a stack, and is operating, may qualify to be a NO_X Budget opt-in unit under this subpart. A unit that is a NO_X Budget unit under §97.4(a), is covered by an exemption under §97.4(b) or §97.5 that is in effect, or is not operating is not eligible to be a NO_X Budget opt-in unit.

§97.81 General.

Except otherwise as provided in this part, a NO_X Budget opt-in unit shall be treated as a NO_X Budget unit for purposes of applying subparts A through H of this part.

§97.82 NO_X authorized account representative.

A unit for which an application for a NO_X Budget opt-in permit is submitted, or a NO_X Budget opt-in unit, located at the same source as one or more NO_X Budget units, shall have the same NO_X authorized account representative as such NO_X Budget units.

§97.83 Applying for NO_X Budget opt-in permit.

(a) *Applying for initial NO_X Budget opt-in permit.* In order to apply for an initial NO_X Budget opt-in permit, the NO_X authorized account representative of a unit qualified under §97.80 may submit to the Administrator and the permitting authority at any time, except as provided under §97.86(g):

(1) A complete NO_X Budget permit application under §97.22;

(2) A monitoring plan submitted in accordance with subpart H of this part; and

(3) A complete account certificate of representation under §97.13, if no NO_X authorized account representative has been previously designated for the unit.

(b) *Duty to reapply.* Unless the NO_X Budget opt-in permit is terminated or revised under §97.86(e) or §97.87(b)(1)(i), the NO_X authorized account representative of a NO_X Budget opt-in unit shall submit to the Administrator and permitting authority a complete NO_X Budget permit application under §97.22 to renew the NO_X Budget opt-in permit in accordance with §97.21(c) and, if applicable, an updated monitoring plan in accordance with subpart H of this part.

§97.84 Opt-in process.

The permitting authority will issue or deny an initial NO_X Budget opt-in permit for a unit for which an application for a NO_X Budget opt-in permit under §97.83 is submitted, in accordance with §97.20 and the following:

(a) *Interim review of monitoring plan.* The Administrator will determine, on an interim basis, the sufficiency of the monitoring plan accompanying the initial application for a NO_X Budget opt-in permit under §97.83. A monitoring plan is sufficient, for purposes of interim review, if the plan appears to contain information demonstrating that the NO_X emissions rate and heat input rate of the unit are monitored and reported in accordance with subpart H of this part. A determination of sufficiency shall not be construed as acceptance or approval of the unit's monitoring plan.

(b) If the Administrator determines that the unit's monitoring plan is sufficient under paragraph (a) of this section and after completion of monitoring system certification under subpart H of this part, the NO_X emissions rate and the heat input of the unit shall be monitored and reported in accordance with subpart H of this part for one full control period during which percent monitor data availability is not less than 90 percent and during which the unit is in full compliance with any applicable State or Federal emissions or emissions-related requirements. Solely for purposes of applying the requirements in the prior sentence, the unit shall be treated as a "NO_X Budget unit" prior to issuance of a NO_X Budget opt-in permit covering the unit.

(c) Based on the information monitored and reported under paragraph (b) of this section, the Administrator will calculate the unit's baseline heat input, which will equal the unit's total heat input (in mmBtu) for the control period, and the unit's baseline NO_X emissions rate, which will equal the unit's total NO_X mass emissions (in lb)

for the control period divided by the unit's baseline heat input.

(d) *Issuance of draft NO_X Budget opt-in permit for public comment.* The permitting authority will issue a draft NO_X Budget opt-in permit for public comment in accordance with § 97.20.

(e) Not withstanding paragraphs (a) through (d) of this section, if at any time before issuance of a draft NO_X Budget opt-in permit for public comment for the unit, the Administrator or the permitting authority determines that the unit does not qualify as a NO_X Budget opt-in unit under § 97.80, the permitting authority will issue a draft denial of a NO_X Budget opt-in permit for public comment for the unit in accordance with § 97.20.

(f) *Withdrawal of application for NO_X Budget opt-in permit.* A NO_X authorized account representative of a unit may withdraw its application for an initial NO_X Budget opt-in permit under § 97.83 at any time prior to the issuance of the initial NO_X Budget opt-in permit. Once the application for a NO_X Budget opt-in permit is withdrawn, a NO_X authorized account representative wanting to reapply must submit a new application for an initial NO_X Budget permit under § 97.83.

(g) The unit shall be a NO_X Budget opt-in unit and a NO_X Budget unit starting May 1 of the first control period starting after the issuance of the initial NO_X Budget opt-in permit by the permitting authority.

§ 97.85 NO_X Budget opt-in permit contents.

(a) Each NO_X Budget opt-in permit will contain all elements required for a complete NO_X Budget opt-in permit application under § 97.22.

(b) Each NO_X Budget opt-in permit is deemed to incorporate automatically the definitions of terms under § 97.2 and, upon recordation by the Administrator under subpart F or G of this part, every allocation, transfer, or deduction of NO_X allowances to or from the compliance accounts of each NO_X Budget opt-in unit covered by the NO_X Budget opt-in permit or the overdraft account of the NO_X Budget source where the NO_X Budget opt-in unit is located.

§ 97.86 Withdrawal from NO_X Budget Trading Program.

(a) *Requesting withdrawal.* To withdraw from the NO_X Budget Trading Program, the NO_X authorized account representative of a NO_X Budget opt-in unit shall submit to the Administrator and the permitting authority a request to withdraw effective as of a specified date prior to May 1 or after September 30. The submission shall be made no later than 90 days prior to the requested effective date of withdrawal.

(b) *Conditions for withdrawal.* Before a NO_X Budget opt-in unit covered by a request under paragraph (a) of this section may withdraw from the NO_X Budget Trading Program and the NO_X Budget opt-in permit may be terminated under paragraph (e) of this section, the following conditions must be met:

(1) For the control period immediately before the withdrawal is to be effective, the NO_X authorized account representative must submit or must have submitted to the Administrator and the permitting authority an annual compliance certification report in accordance with § 97.30.

(2) If the NO_X Budget opt-in unit has excess emissions for the control period immediately before the withdrawal is to be effective, the Administrator will deduct or has deducted from the NO_X Budget opt-in unit's compliance account, or the overdraft account of the NO_X Budget source where the NO_X Budget opt-in unit is located, the full amount required under § 97.54(d) for the control period.

(3) After the requirements for withdrawal under paragraphs (b)(1) and (2) of this section are met, the Administrator will deduct from the NO_X Budget opt-in unit's compliance account, or the overdraft account of the NO_X Budget source where the NO_X Budget opt-in unit is located, NO_X allowances equal in number to and allocated for the same or a prior control period as any NO_X allowances allocated to that source under § 97.88 for any control period for which the withdrawal is to be effective. The Administrator will close the NO_X Budget opt-in unit's compliance account and transfer any remaining allowances to a general account specified by the owners and operators of the NO_X Budget opt-in unit.

(c) A NO_X Budget opt-in unit that withdraws from the NO_X Budget Trading Program shall comply with all requirements under the NO_X Budget Trading Program concerning all years for which such NO_X Budget opt-in unit was a NO_X Budget opt-in unit, even if such requirements arise or must be complied with after the withdrawal takes effect.

(d) *Notification.* (1) After the requirements for withdrawal under paragraphs (a) and (b) of this section are met (including deduction of the full amount of NO_X allowances required), the Administrator will issue a notification to the permitting authority and the NO_X authorized account representative of the NO_X Budget opt-in unit of the acceptance of the withdrawal of the NO_X Budget opt-in unit as of a specified effective date that is after such requirements have been met and that is prior to May 1 or after September 30.

(2) If the requirements for withdrawal under paragraphs (a) and (b) of this section are not met, the Administrator will issue a notification to the permitting authority and the NO_X authorized account representative of the NO_X Budget opt-in unit that the request to withdraw is denied. If the NO_X Budget opt-in unit's request to withdraw is denied, the NO_X Budget opt-in unit shall remain subject to the requirements for a NO_X Budget opt-in unit.

(e) *Permit revision.* After the Administrator issues a notification under paragraph (d)(1) of this section that the requirements for withdrawal have been met, the permitting authority will revise the NO_X Budget permit covering the NO_X Budget opt-in unit to terminate the NO_X Budget opt-in permit as of the effective date specified under paragraph (d)(1) of this section. A NO_X Budget opt-in unit shall continue to be a NO_X Budget opt-in unit until the effective date of the termination.

(f) *Reapplication upon failure to meet conditions of withdrawal.* If the Administrator denies the request to withdraw the NO_X Budget opt-in unit, the NO_X authorized account representative may submit another request to withdraw in accordance with paragraphs (a) and (b) of this section.

(g) *Ability to return to the NO_X Budget Trading Program.* Once a NO_X Budget opt-in unit withdraws from the NO_X Budget Trading Program and its NO_X Budget opt-in permit is terminated under paragraph (e) of this section, the NO_X authorized account representative may not submit another application for a NO_X Budget opt-in permit under §97.83 for the unit prior to the date that is 4 years after the date on which the terminated NO_X Budget opt-in permit became effective.

§97.87 Change in regulatory status.

(a) *Notification.* When a NO_X Budget opt-in unit becomes a NO_X Budget unit under §97.4(a), the NO_X authorized account representative shall notify in writing the permitting authority and the Administrator of such change in the NO_X Budget opt-in unit's regulatory status, within 30 days of such change.

(b) *Permitting authority's and Administrator's action.* (1)(i) When the NO_X Budget opt-in unit becomes a NO_X Budget unit under §97.4(a), the permitting authority will revise the NO_X Budget opt-in unit's NO_X Budget opt-in permit to meet the requirements of a NO_X Budget permit under §97.23 as of an effective date that is the date on which such NO_X Budget opt-in unit becomes a NO_X Budget unit under §97.4(a).

(ii)(A) The Administrator will deduct from the compliance account for the NO_X Budget unit under paragraph (b)(1)(i) of this section, or the overdraft account of the NO_X Budget source where the unit is located, NO_X allowances equal in number to and allocated for the same or a prior control period as:

(*1*) Any NO_X allowances allocated to the NO_X Budget unit (as a NO_X Budget opt-in unit) under §97.88 for any control period after the last control period during which the unit's NO_X Budget opt-in permit was effective; and

(*2*) If the effective date of the NO_X Budget permit revision under paragraph (b)(1)(i) of this section is during a control period, the NO_X allowances allocated to the NO_X Budget unit (as a NO_X Budget opt-in unit) under §97.88 for the control period multiplied by the number of days in the control period

starting with the effective date of the permit revision under paragraph (b)(1)(i) of this section, divided by the total number of days in the control period, and rounded to the nearest whole number of NO_X allowances as appropriate.

(B) The NO_X authorized account representative shall ensure that the compliance account of the NO_X Budget unit under paragraph (b)(1)(i) of this section, or the overdraft account of the NO_X Budget source where the unit is located, contains the NO_X allowances necessary for completion of the deduction under paragraph (b)(1)(ii)(A) of this section. If the compliance account or overdraft account does not contain the necessary NO_X allowances, the Administrator will deduct the required number of NO_X allowances, regardless of the control period for which they were allocated, whenever NO_X allowances are recorded in either account.

(iii)(A) For every control period during which the NO_X Budget permit revised under paragraph (b)(1)(i) of this section is in effect, the NO_X Budget unit under paragraph (b)(1)(i) of this section will be treated, solely for purposes of NO_X allowance allocations under § 97.42, as a unit that commenced operation on the effective date of the NO_X Budget permit revision under paragraph (b)(1)(i) of this section and will be allocated NO_X allowances under § 97.42. The unit's deadline under § 97.84(b) for meeting monitoring requirements in accordance with subpart H of this part shall not be changed by the change in the unit's regulatory status or by the revision of the NO_X Budget permit under paragraph (b)(1)(i) of this section.

(B) Notwithstanding paragraph (b)(1)(iii)(A) of this section, if the effective date of the NO_X Budget permit revision under paragraph (b)(1)(i) of this section is during a control period, the following number of NO_X allowances will be allocated to the NO_X Budget unit under paragraph (b)(1)(i) of this section under § 97.42 for the control period: the number of NO_X allowances otherwise allocated to the NO_X Budget unit under § 97.42 for the control period multiplied by the number of days in the control period starting with the effective date of the permit revision under paragraph (b)(1)(i) of this section, divided by the total number of days in the control period, and rounded to the nearest whole number of NO_X allowances as appropriate.

(2)(i) When the NO_X authorized account representative of a NO_X Budget opt-in unit does not renew its NO_X Budget opt-in permit under § 97.83(b), the Administrator will deduct from the NO_X Budget opt-in unit's compliance account, or the overdraft account of the NO_X Budget source where the NO_X Budget opt-in unit is located, NO_X allowances equal in number to and allocated for the same or a prior control period as any NO_X allowances allocated to the NO_X Budget opt-in unit under § 97.88 for any control period after the last control period for which the NO_X Budget opt-in permit is effective. The NO_X authorized account representative shall ensure that the NO_X Budget opt-in unit's compliance account or the overdraft account of the NO_X Budget source where the NO_X Budget opt-in unit is located contains the NO_X allowances necessary for completion of such deduction. If the compliance account or overdraft account does not contain the necessary NO_X allowances, the Administrator will deduct the required number of NO_X allowances, regardless of the control period for which they were allocated, whenever NO_X allowances are recorded in either account.

(ii) After the deduction under paragraph (b)(2)(i) of this section is completed, the Administrator will close the NO_X Budget opt-in unit's compliance account. If any NO_X allowances remain in the compliance account after completion of such deduction and any deduction under § 97.54, the Administrator will close the NO_X Budget opt-in unit's compliance account and transfer any remaining allowances to a general account specified by the owners and operators of the NO_X Budget opt-in unit.

[65 FR 2727, Jan. 18, 2000, as amended at 69 FR 21648, Apr. 21, 2004]

§ 97.88 NO_X allowance allocations to opt-in units.

(a) *NO_X allotment allocation.* (1) By April 1 immediately before the first control period for which the NO_X Budget opt-in permit is effective, the Administrator will determine by order

the NO_X allowance allocations for the NO_X Budget opt-in unit for the control period in accordance with paragraph (b) of this section.

(2) By no later than April 1, after the first control period for which the NO_X Budget opt-in permit is in effect, and April 1 of each year thereafter, the Administrator will determine by order the NO_X allowance allocations for the NO_X Budget opt-in unit for the next control period, in accordance with paragraph (b) of this section.

(3) The Administrator will make available to the public each determination of NO_X allowance allocations under paragraph (a)(1) or (2) of this section and will provide an opportunity for submission of objections to the determination. Objections shall be limited to addressing whether the determination is in accordance with paragraph (b) of this section. Based on any such objections, the Administrator will adjust each determination to the extent necessary to ensure that it is in accordance with paragraph (b) of this section.

(b) For each control period for which the NO_X Budget opt-in unit has an approved NO_X Budget opt-in permit, the NO_X Budget opt-in unit will be allocated NO_X allowances in accordance with the following procedures:

(1) The heat input (in mmBtu) used for calculating NO_X allowance allocations will be the lesser of:

(i) The unit's baseline heat input determined pursuant to § 97.84(c); or

(ii) The unit's heat input, as determined in accordance with subpart H of this part, for the control period in the year prior to the year of the control period for which the NO_X allocations are being calculated.

(2) The Administrator will allocate NO_X allowances to the unit in an amount equaling the heat input determined under paragraph (b)(1) of this section multiplied by the lesser of the unit's baseline NO_X emissions rate determined under § 97.84(c) or the most stringent State or federal NO_X emissions limitation applicable to the unit during the control period, divided by 2,000 lb/ton, and rounded to the nearest whole number of NO_X allowances as appropriate.

Subpart J—Appeal Procedures

§ 97.90 Appeal procedures.

The appeal procedures for the NO_X Budget Trading Program are set forth in part 78 of this chapter.

[69 FR 21648, Apr. 21, 2004]

Subpart AA—CAIR NO_X Annual Trading Program General Provisions

§ 97.101 Purpose.

This subpart and subparts BB through II set forth the general provisions and the designated representative, permitting, allowance, monitoring, and opt-in provisions for the Federal Clean Air Interstate Rule (CAIR) NO_X Annual Trading Program, under section 110 of the Clean Air Act and § 52.35 of this chapter, as a means of mitigating interstate transport of fine particulates and nitrogen oxides.

§ 97.102 Definitions.

The terms used in this subpart and subparts BB through II shall have the meanings set forth in this section as follows:

Account number means the identification number given by the Administrator to each CAIR NO_X Allowance Tracking System account.

Acid Rain emissions limitation means a limitation on emissions of sulfur dioxide or nitrogen oxides under the Acid Rain Program.

Acid Rain Program means a multistate sulfur dioxide and nitrogen oxides air pollution control and emission reduction program established by the Administrator under title IV of the CAA and parts 72 through 78 of this chapter.

Actual weighted average NO_X emission rate means, for a NO_X averaging plan under § 76.11 of this chapter and for a year:

(1) The sum of the products of the actual annual average NO_X emission rate and actual annual heat input (as determined in accordance with part 75 of this chapter) for all units in the NO_X averaging plan for the year; divided by

(2) The sum of the actual annual heat input (as determined in accordance with part 75 of this chapter) for all

units in the NO_X averaging plan for the year.

Administrator means the Administrator of the United States Environmental Protection Agency or the Administrator's duly authorized representative.

Allocate or *allocation* means, with regard to CAIR NO_X allowances, the determination by a permitting authority or the Administrator of the amount of such CAIR NO_X allowances to be initially credited to a CAIR NO_X unit, a new unit set-aside, or other entity.

Allowance transfer deadline means, for a control period, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately following the control period and is the deadline by which a CAIR NO_X allowance transfer must be submitted for recordation in a CAIR NO_X source's compliance account in order to be used to meet the source's CAIR NO_X emissions limitation for such control period in accordance with § 97.154.

Alternate CAIR designated representative means, for a CAIR NO_X source and each CAIR NO_X unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with subparts BB and II of this part, to act on behalf of the CAIR designated representative in matters pertaining to the CAIR NO_X Annual Trading Program. If the CAIR NO_X source is also a CAIR SO_2 source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR SO_2 Trading Program. If the CAIR NO_X source is also a CAIR NO_X Ozone Season source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR NO_X Ozone Season Trading Program. If the CAIR NO_X source is also subject to the Acid Rain Program, then this natural person shall be the same person as the alternate designated representative under the Acid Rain Program. If the CAIR NO_X source is also subject to the Hg Budget Trading Program, then this natural person shall be the same person as the alternate Hg designated representative under the Hg Budget Trading Program.

Automated data acquisition and handling system or *DAHS* means that component of the continuous emission monitoring system, or other emissions monitoring system approved for use under subpart HH of this part, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by subpart HH of this part.

Biomass means—

(1) Any organic material grown for the purpose of being converted to energy;

(2) Any organic byproduct of agriculture that can be converted into energy; or

(3) Any material that can be converted into energy and is nonmerchantable for other purposes, that is segregated from other nonmerchantable material, and that is;

(i) A forest-related organic resource, including mill residues, precommercial thinnings, slash, brush, or byproduct from conversion of trees to merchantable material; or

(ii) A wood material, including pallets, crates, dunnage, manufacturing and construction materials (other than pressure-treated, chemically-treated, or painted wood products), and landscape or right-of-way tree trimmings.

Boiler means an enclosed fossil- or other-fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

Bottoming-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful thermal energy and at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

CAIR authorized account representative means, with regard to a general account, a responsible natural person who is authorized, in accordance with subparts BB, FF, and II of this part, to transfer and otherwise dispose of CAIR

NO_X allowances held in the general account and, with regard to a compliance account, the CAIR designated representative of the source.

CAIR designated representative means, for a CAIR NO_X source and each CAIR NO_X unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with subparts BB and II of this part, to represent and legally bind each owner and operator in matters pertaining to the CAIR NO_X Annual Trading Program. If the CAIR NO_X source is also a CAIR SO_2 source, then this natural person shall be the same person as the CAIR designated representative under the CAIR SO_2 Trading Program. If the CAIR NO_X source is also a CAIR NO_X Ozone Season source, then this natural person shall be the same person as the CAIR designated representative under the CAIR NO_X Ozone Season Trading Program. If the CAIR NO_X source is also subject to the Acid Rain Program, then this natural person shall be the same person as the designated representative under the Acid Rain Program. If the CAIR NO_X source is also subject to the Hg Budget Trading Program, then this natural person shall be the same person as the Hg designated representative under the Hg Budget Trading Program.

CAIR NO_X allowance means a limited authorization issued by a permitting authority or the Administrator under subpart EE of this part or § 97.188, or under provisions of a State implementation plan that are approved under § 51.123(o)(1) or (2) or (p) of this chapter, to emit one ton of nitrogen oxides during a control period of the specified calendar year for which the authorization is allocated or of any calendar year thereafter under the CAIR NO_X Program. An authorization to emit nitrogen oxides that is not issued under subpart EE of this part, § 97.188, or provisions of a State implementation plan that are approved under § 51.123(o)(1) or (2) or (p) of this chapter shall not be a CAIR NO_X allowance.

CAIR NO_X allowance deduction or deduct CAIR NO_X allowances means the permanent withdrawal of CAIR NO_X allowances by the Administrator from a compliance account, *e.g.*, in order to account for a specified number of tons of total nitrogen oxides emissions from all CAIR NO_X units at a CAIR NO_X source for a control period, determined in accordance with subpart HH of this part, or to account for excess emissions.

CAIR NO_X Allowance Tracking System means the system by which the Administrator records allocations, deductions, and transfers of CAIR NO_X allowances under the CAIR NO_X Annual Trading Program. Such allowances will be allocated, held, deducted, or transferred only as whole allowances.

CAIR NO_X Allowance Tracking System account means an account in the CAIR NO_X Allowance Tracking System established by the Administrator for purposes of recording the allocation, holding, transferring, or deducting of CAIR NO_X allowances.

CAIR NO_X allowances held or *hold CAIR NO_X allowances* means the CAIR NO_X allowances recorded by the Administrator, or submitted to the Administrator for recordation, in accordance with subparts FF, GG, and II of this part, in a CAIR NO_X Allowance Tracking System account.

CAIR NO_X Annual Trading Program means a multi-state nitrogen oxides air pollution control and emission reduction program established by the Administrator in accordance with subparts AA through II of this part and §§ 51.123(p) and 52.35 of this chapter or approved and administered by the Administrator in accordance with subparts AA through II of part 96 of this chapter and § 51.123(o)(1) or (2) of this chapter, as a means of mitigating interstate transport of fine particulates and nitrogen oxides.

CAIR NO_X emissions limitation means, for a CAIR NO_X source, the tonnage equivalent, in NO_X emissions in a control period, of the CAIR NO_X allowances available for deduction for the source under § 97.154 (a) and (b) for the control period.

CAIR NO_X Ozone Season source means a source that is subject to the CAIR NO_X Ozone Season Trading Program.

CAIR NO_X Ozone Season Trading Program means a multi-state nitrogen oxides air pollution control and emission reduction program established by the

Administrator in accordance with subparts AAAA through IIII of this part and §§ 51.123(ee) and 52.35 of this chapter or approved and administered by the Administrator in accordance with subparts AAAA through IIII of part 96 and § 51.123(aa)(1) or (2) (and (bb)(1)), (bb)(2), or (dd) of this chapter, as a means of mitigating interstate transport of ozone and nitrogen oxides.

CAIR NO_X source means a source that includes one or more CAIR NO_X units.

CAIR NO_X unit means a unit that is subject to the CAIR NO_X Annual Trading Program under § 97.104 and, except for purposes of § 97.105 and subpart EE of this part, a CAIR NO_X opt-in unit under subpart II of this part.

CAIR permit means the legally binding and federally enforceable written document, or portion of such document, issued by the permitting authority under subpart CC of this part, including any permit revisions, specifying the CAIR NO_X Annual Trading Program requirements applicable to a CAIR NO_X source, to each CAIR NO_X unit at the source, and to the owners and operators and the CAIR designated representative of the source and each such unit.

CAIR SO_2 source means a source that is subject to the CAIR SO_2 Trading Program.

CAIR SO_2 Trading Program means a multi-state sulfur dioxide air pollution control and emission reduction program established by the Administrator in accordance with subparts AAA through III of this part and §§ 51.124(r) and 52.36 of this chapter or approved and administered by the Administrator in accordance with subparts AAA through III of part 96 of this chapter and § 51.124(o)(1) or (2) of this chapter, as a means of mitigating interstate transport of fine particulates and sulfur dioxide.

Certifying official means:

(1) For a corporation, a president, secretary, treasurer, or vice-president or the corporation in charge of a principal business function or any other person who performs similar policy or decision-making functions for the corporation;

(2) For a partnership or sole proprietorship, a general partner or the proprietor respectively; or

(3) For a local government entity or State, Federal, or other public agency, a principal executive officer or ranking elected official.

Clean Air Act or *CAA* means the Clean Air Act, 42 U.S.C. 7401, *et seq*.

Coal means any solid fuel classified as anthracite, bituminous, subbituminous, or lignite.

Coal-derived fuel means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal, or chemical processing of coal.

Coal-fired means:

(1) Except for purposes of subpart EE of this part, combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year; or

(2) For purposes of subpart EE of this part, combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during a specified year.

Cogeneration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine:

(1) Having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and

(2) Producing during the 12-month period starting on the date the unit first produces electricity and during any calendar year after the calendar year in which the unit first produces electricity—

(i) For a topping-cycle cogeneration unit, (A) Useful thermal energy not less than 5 percent of total energy output; and

(B) Useful power that, when added to one-half of useful thermal energy produced, is not less then 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output.

(ii) For a bottoming-cycle cogeneration unit, useful power not less than 45 percent of total energy input;

(3) Provided that the total energy input under paragraphs (2)(i)(B) and (2)(ii) of this definition shall equal the

unit's total energy input from all fuel except biomass if the unit is a boiler.

Combustion turbine means:

(1) An enclosed device comprising a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and

(2) If the enclosed device under paragraph (1) of this definition is combined cycle, any associated duct burner, heat recovery steam generator, and steam turbine.

Commence commercial operation means, with regard to a unit:

(1) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in § 97.105 and § 97.184(h).

(i) For a unit that is a CAIR NO_X unit under § 97.104 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a CAIR NO_X unit under § 97.104 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

(2) Notwithstanding paragraph (1) of this definition and except as provided in § 97.105, for a unit that is not a CAIR NO_X unit under § 97.104 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a CAIR NO_X unit under § 97.104.

(i) For a unit with a date for commencement of commercial operation as defined in paragraph (2) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in paragraph (2) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

Commence operation means:

(1) To have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber, except as provided in § 97.184(h).

(2) For a unit that undergoes a physical change (other than replacement of the unit by a unit at the same source) after the date the unit commences operation as defined in paragraph (1) of this definition, such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit.

(3) For a unit that is replaced by a unit at the same source (*e.g.*, repowered) after the date the unit commences operation as defined in paragraph (1) of this definition, such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in paragraph (1), (2), or (3) of this definition as appropriate, except as provided in § 97.184(h).

Common stack means a single flue through which emissions from 2 or more units are exhausted.

Compliance account means a CAIR NO_X Allowance Tracking System account, established by the Administrator for a CAIR NO_X source under subpart FF or II of this part, in which

any CAIR NO_X allowance allocations for the CAIR NO_X units at the source are initially recorded and in which are held any CAIR NO_X allowances available for use for a control period in order to meet the source's CAIR NO_X emissions limitation in accordance with § 97.154.

Continuous emission monitoring system or *CEMS* means the equipment required under subpart HH of this part to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes (using an automated data acquisition and handling system (DAHS)), a permanent record of nitrogen oxides emissions, stack gas volumetric flow rate, stack gas moisture content, and oxygen or carbon dioxide concentration (as applicable), in a manner consistent with part 75 of this chapter. The following systems are the principal types of continuous emission monitoring systems required under subpart HH of this part:

(1) A flow monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);

(2) A nitrogen oxides concentration monitoring system, consisting of a NO_X pollutant concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X emissions, in parts per million (ppm);

(3) A nitrogen oxides emission rate (or NO_X-diluent) monitoring system, consisting of a NO_X pollutant concentration monitor, a diluent gas (CO_2 or O_2) monitor, and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X concentration, in parts per million (ppm), diluent gas concentration, in percent CO_2 or O_2, and NO_X emission rate, in pounds per million British thermal units (lb/mmBtu);

(4) A moisture monitoring system, as defined in § 75.11(b)(2) of this chapter and providing a permanent, continuous record of the stack gas moisture content, in percent H_2O;

(5) A carbon dioxide monitoring system, consisting of a CO_2 pollutant concentration monitor (or an oxygen monitor plus suitable mathematical equations from which the CO_2 concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of CO_2 emissions, in percent CO_2; and

(6) An oxygen monitoring system, consisting of an O_2 concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O_2, in percent O_2.

Control period means the period beginning January 1 of a calendar year, except as provided in § 97.106(c)(2), and ending on December 31 of the same year, inclusive.

Emissions means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the CAIR designated representative and as determined by the Administrator in accordance with subpart HH of this part.

Excess emissions means any ton of nitrogen oxides emitted by the CAIR NO_X units at a CAIR NO_X source during a control period that exceeds the CAIR NO_X emissions limitation for the source.

Fossil fuel means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.

Fossil-fuel-fired means, with regard to a unit, combusting any amount of fossil fuel in any calendar year.

Fuel oil means any petroleum-based fuel (including diesel fuel or petroleum derivatives such as oil tar) and any recycled or blended petroleum products or petroleum by-products used as a fuel whether in a liquid, solid, or gaseous state.

General account means a CAIR NO_X Allowance Tracking System account, established under subpart FF of this part, that is not a compliance account.

Generator means a device that produces electricity.

Gross electrical output means, with regard to a cogeneration unit, electricity made available for use, including any such electricity used in the power production process (which process includes, but is not limited to, any onsite processing or treatment of fuel

combusted at the unit and any on-site emission controls).

Heat input means, with regard to a specified period of time, the product (in mmBtu/time) of the gross calorific value of the fuel (in Btu/lb) divided by 1,000,000 Btu/mmBtu and multiplied by the fuel feed rate into a combustion device (in lb of fuel/time), as measured, recorded, and reported to the Administrator by the CAIR designated representative and determined by the Administrator in accordance with subpart HH of this part and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.

Heat input rate means the amount of heat input (in mmBtu) divided by unit operating time (in hr) or, with regard to a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Hg Budget Trading Program means a multi-state Hg air pollution control and emission reduction program approved and administered by the Administrator in accordance subpart HHHH of part 60 of this chapter and § 60.24(h)(6), or established by the Administrator under section 111 of the Clean Air Act, as a means of reducing national Hg emissions.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period no less than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input means the maximum amount of fuel per hour (in Btu/hr) that a unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.

Monitoring system means any monitoring system that meets the requirements of subpart HH of this part, including a continuous emissions monitoring system, an alternative monitoring system, or an excepted monitoring system under part 75 of this chapter.

Most stringent State or Federal NO_X emissions limitation means, with regard to a unit, the lowest NO_X emissions limitation (in terms of lb/mmBtu) that is applicable to the unit under State or Federal law, regardless of the averaging period to which the emissions limitation applies.

Nameplate capacity means, starting from the initial installation of a generator, the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings), such increased maximum amount as of such completion as specified by the person conducting the physical change.

Oil-fired means, for purposes of subpart EE of this part, combusting fuel oil for more than 15.0 percent of the annual heat input in a specified year and not qualifying as coal-fired.

Operator means any person who operates, controls, or supervises a CAIR NO_X unit or a CAIR NO_X source and shall include, but not be limited to, any holding company, utility system, or plant manager of such a unit or source.

Owner means any of the following persons:

(1) With regard to a CAIR NO_X source or a CAIR NO_X unit at a source, respectively:

(i) Any holder of any portion of the legal or equitable title in a CAIR NO_X unit at the source or the CAIR NO_X unit;

(ii) Any holder of a leasehold interest in a CAIR NO_X unit at the source or the CAIR NO_X unit; or

(iii) Any purchaser of power from a CAIR NO_X unit at the source or the CAIR NO_X unit under a life-of-the-unit, firm power contractual arrangement; provided that, unless expressly provided for in a leasehold agreement, owner shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based (either directly or indirectly) on the revenues or income from such CAIR NO_X unit; or

(2) With regard to any general account, any person who has an ownership interest with respect to the CAIR NO_X allowances held in the general account and who is subject to the binding agreement for the CAIR authorized account representative to represent the person's ownership interest with respect to CAIR NO_X allowances.

Permitting authority means the State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to issue or revise permits to meet the requirements of the CAIR NO_X Annual Trading Program or, if no such agency has been so authorized, the Administrator.

Potential electrical output capacity means 33 percent of a unit's maximum design heat input, divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

Receive or receipt of means, when referring to the permitting authority or the Administrator, to come into possession of a document, information, or correspondence (whether sent in hard copy or by authorized electronic transmission), as indicated in an official log, or by a notation made on the document, information, or correspondence, by the permitting authority or the Administrator in the regular course of business.

Recordation, *record*, or *recorded* means, with regard to CAIR NO_X allowances, the movement of CAIR NO_X allowances by the Administrator into or between CAIR NO_X Allowance Tracking System accounts, for purposes of allocation, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in § 75.22 of this chapter.

Replacement, *replace*, or *replaced* means, with regard to a unit, the demolishing of a unit, or the permanent shutdown and permanent disabling of a unit, and the construction of another unit (the replacement unit) to be used instead of the demolished or shutdown unit (the replaced unit).

Repowered means, with regard to a unit, replacement of a coal-fired boiler with one of the following coal-fired technologies at the same source as the coal-fired boiler:

(1) Atmospheric or pressurized fluidized bed combustion;

(2) Integrated gasification combined cycle;

(3) Magnetohydrodynamics;

(4) Direct and indirect coal-fired turbines;

(5) Integrated gasification fuel cells; or

(6) As determined by the Administrator in consultation with the Secretary of Energy, a derivative of one or more of the technologies under paragraphs (1) through (5) of this definition and any other coal-fired technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of January 1, 2005.

Sequential use of energy means:

(1) For a topping-cycle cogeneration unit, the use of reject heat from electricity production in a useful thermal energy application or process; or

(2) For a bottoming-cycle cogeneration unit, the use of reject heat from useful thermal energy application or process in electricity production.

Serial number means, for a CAIR NO_X allowance, the unique identification number assigned to each CAIR NO_X allowance by the Administrator.

Solid waste incineration unit means a stationary, fossil-fuel-fired boiler or

stationary, fossil-fuel-fired combustion turbine that is a ''solid waste incineration unit'' as defined in section 129(g)(1) of the Clean Air Act.

Source means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons. For purposes of section 502(c) of the Clean Air Act, a ''source,'' including a ''source'' with multiple units, shall be considered a single ''facility.''

State means one of the States or the District of Columbia that is subject to the CAIR NO_X Annual Trading Program pursuant to § 52.35 of this chapter.

Submit or serve means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery. Compliance with any ''submission'' or ''service'' deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Title V operating permit means a permit issued under title V of the Clean Air Act and part 70 or part 71 of this chapter.

Title V operating permit regulations means the regulations that the Administrator has approved or issued as meeting the requirements of title V of the Clean Air Act and part 70 or 71 of this chapter.

Ton means 2,000 pounds. For the purpose of determining compliance with the CAIR NO_X emissions limitation, total tons of nitrogen oxides emissions for a control period shall be calculated as the sum of all recorded hourly emissions (or the mass equivalent of the recorded hourly emission rates) in accordance with subpart HH of this part, but with any remaining fraction of a ton equal to or greater than 0.50 tons deemed to equal one ton and any remaining fraction of a ton less than 0.50 tons deemed to equal zero tons.

Topping-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful power, including electricity, and at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

Total energy input means, with regard to a cogeneration unit, total energy of all forms supplied to the cogeneration unit, excluding energy produced by the cogeneration unit itself. Each form of energy supplied shall be measured by the lower heating value of that form of energy calculated as follows:

$$LHV = HHV - 10.55(W + 9H)$$

Where:

LHV = lower heating value of fuel in Btu/lb,
HHV = higher heating value of fuel in Btu/lb,
W = Weight % of moisture in fuel, and
H = Weight % of hydrogen in fuel.

Total energy output means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.

Unit means a stationary, fossil-fuel-fired boiler or combustion turbine or other stationary, fossil-fuel-fired combustion device.

Unit operating day means a calendar day in which a unit combusts any fuel.

Unit operating hour or *hour of unit operation* means an hour in which a unit combusts any fuel.

Useful power means, with regard to a cogeneration unit, electricity or mechanical energy made available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Useful thermal energy means, with regard to a cogeneration unit, thermal energy that is:

(1) Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;

(2) Used in a heating application (*e.g.*, space heating or domestic hot water heating); or

(3) Used in a space cooling application (*i.e.*, thermal energy used by an absorption chiller).

Utility power distribution system means the portion of an electricity grid owned

or operated by a utility and dedicated to delivering electricity to customers.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006; 72 FR 59206, Oct. 19, 2007]

§ 97.103 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this subpart and subparts BB through II are defined as follows:

Btu—British thermal unit
CO_2—carbon dioxide
H_2O—water
Hg—mercury
hr—hour
kW—kilowatt electrical
kWh—kilowatt hour
lb—pound
mmBtu—million Btu
MWe—megawatt electrical
MWh—megawatt hour
NO_X—nitrogen oxides
O_2—oxygen
ppm—parts per million
scfh—standard cubic feet per hour
SO_2—sulfur dioxide
yr—year

§ 97.104 Applicability.

(a) Except as provided in paragraph (b) of this section:

(1) The following units in a State shall be CAIR NO_X units, and any source that includes one or more such units shall be a CAIR NO_X source, subject to the requirements of this subpart and subparts BB through HH of this part: any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

(2) If a stationary boiler or stationary combustion turbine that, under paragraph (a)(1) of this section, is not a CAIR NO_X unit begins to combust fossil fuel or to serve a generator with nameplate capacity of more than 25 MWe producing electricity for sale, the unit shall become a CAIR NO_X unit as provided in paragraph (a)(1) of this section on the first date on which it both combusts fossil fuel and serves such generator.

(b) The units in a State that meet the requirements set forth in paragraph (b)(1)(i), (b)(2)(i), or (b)(2)(ii) of this section shall not be CAIR NO_X units:

(1)(i) Any unit that is a CAIR NO_X unit under paragraph (a)(1) or (2) of this section:

(A) Qualifying as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit; and

(B) Not serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

(ii) If a unit qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and meets the requirements of paragraphs (b)(1)(i) of this section for at least one calendar year, but subsequently no longer meets all such requirements, the unit shall become a CAIR NO_X unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a cogeneration unit or January 1 after the first calendar year during which the unit no longer meets the requirements of paragraph (b)(1)(i)(B) of this section.

(2)(i) Any unit that is a CAIR NO_X unit under paragraph (a)(1) or (2) of this section commencing operation before January 1, 1985:

(A) Qualifying as a solid waste incineration unit; and

(B) With an average annual fuel consumption of non-fossil fuel for 1985–1987 exceeding 80 percent (on a Btu basis) and an average annual fuel consumption of non-fossil fuel for any 3 consecutive calendar years after 1990 exceeding 80 percent (on a Btu basis).

(ii) Any unit that is a CAIR NO_X unit under paragraph (a)(1) or (2) of this section commencing operation on or after January 1, 1985:

(A) Qualifying as a solid waste incineration unit; and

(B) With an average annual fuel consumption of non-fossil fuel for the first 3 calendar years of operation exceeding 80 percent (on a Btu basis) and an average annual fuel consumption of non-fossil fuel for any 3 consecutive calendar years after 1990 exceeding 80 percent (on a Btu basis).

(iii) If a unit qualifies as a solid waste incineration unit and meets the requirements of paragraph (b)(2)(i) or (ii) of this section for at least 3 consecutive calendar years, but subsequently no longer meets all such requirements, the unit shall become a CAIR NO_X unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a solid waste incineration unit or January 1 after the first 3 consecutive calendar years after 1990 for which the unit has an average annual fuel consumption of fossil fuel of 20 percent or more.

(c) A certifying official of an owner or operator of any unit may petition the Administrator at any time for a determination concerning the applicability, under paragraphs (a) and (b) of this section, of the CAIR NO_X Annual Trading Program to the unit.

(1) *Petition content*. The petition shall be in writing and include the identification of the unit and the relevant facts about the unit. The petition and any other documents provided to the Administrator in connection with the petition shall include the following certification statement, signed by the certifying official: ''I am authorized to make this submission on behalf of the owners and operators of the unit for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) *Submission*. The petition and any other documents provided in connection with the petition shall be submitted to the Director of the Clean Air Markets Division (or its successor), U.S. Environmental Protection Agency, who will act on the petition as the Administrator's duly authorized representative.

(3) *Response*. The Administrator will issue a written response to the petition and may request supplemental information relevant to such petition. The Administrator's determination concerning the applicability, under paragraphs (a) and (b) of this section, of the CAIR NO_X Annual Trading Program to the unit shall be binding on the permitting authority unless the petition or other information or documents provided in connection with the petition are found to have contained significant, relevant errors or omissions.

§ 97.105 Retired unit exemption.

(a)(1) Any CAIR NO_X unit that is permanently retired and is not a CAIR NO_X opt-in unit under subpart II of this part shall be exempt from the CAIR NO_X Annual Trading Program, except for the provisions of this section, §§ 97.102, 97.103, 97.104, 97.106(c)(4) through (7), 97.107, 97.108, and subparts BB and EE through GG of this part.

(2) The exemption under paragraph (a)(1) of this section shall become effective the day on which the CAIR NO_X unit is permanently retired. Within 30 days of the unit's permanent retirement, the CAIR designated representative shall submit a statement to the permitting authority otherwise responsible for administering any CAIR permit for the unit and shall submit a copy of the statement to the Administrator. The statement shall state, in a format prescribed by the permitting authority, that the unit was permanently retired on a specific date and will comply with the requirements of paragraph (b) of this section.

(3) After receipt of the statement under paragraph (a)(2) of this section, the permitting authority will amend any permit under subpart CC of this part covering the source at which the unit is located to add the provisions and requirements of the exemption

under paragraphs (a)(1) and (b) of this section.

(b) *Special provisions.* (1) A unit exempt under paragraph (a) of this section shall not emit any nitrogen oxides, starting on the date that the exemption takes effect.

(2) The Administrator or the permitting authority will allocate CAIR NO_X allowances under subpart EE of this part to a unit exempt under paragraph (a) of this section.

(3) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under paragraph (a) of this section shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the permitting authority or the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(4) The owners and operators and, to the extent applicable, the CAIR designated representative of a unit exempt under paragraph (a) of this section shall comply with the requirements of the CAIR NO_X Annual Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(5) A unit exempt under paragraph (a) of this section and located at a source that is required, or but for this exemption would be required, to have a title V operating permit shall not resume operation unless the CAIR designated representative of the source submits a complete CAIR permit application under § 97.122 for the unit not less than 18 months (or such lesser time provided by the permitting authority) before the later of January 1, 2009 or the date on which the unit resumes operation.

(6) On the earlier of the following dates, a unit exempt under paragraph (a) of this section shall lose its exemption:

(i) The date on which the CAIR designated representative submits a CAIR permit application for the unit under paragraph (b)(5) of this section;

(ii) The date on which the CAIR designated representative is required under paragraph (b)(5) of this section to submit a CAIR permit application for the unit; or

(iii) The date on which the unit resumes operation, if the CAIR designated representative is not required to submit a CAIR permit application for the unit.

(7) For the purpose of applying monitoring, reporting, and recordkeeping requirements under subpart HH of this part, a unit that loses its exemption under paragraph (a) of this section shall be treated as a unit that commences commercial operation on the first date on which the unit resumes operation.

§ 97.106 Standard requirements.

(a) *Permit requirements.* (1) The CAIR designated representative of each CAIR NO_X source required to have a title V operating permit and each CAIR NO_X unit required to have a title V operating permit at the source shall:

(i) Submit to the permitting authority a complete CAIR permit application under § 97.122 in accordance with the deadlines specified in § 97.121; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review a CAIR permit application and issue or deny a CAIR permit.

(2) The owners and operators of each CAIR NO_X source required to have a title V operating permit and each CAIR NO_X unit required to have a title V operating permit at the source shall have a CAIR permit issued by the permitting authority under subpart CC of this part for the source and operate the source and the unit in compliance with such CAIR permit.

(3) Except as provided in subpart II of this part, the owners and operators of a CAIR NO_X source that is not otherwise required to have a title V operating permit and each CAIR NO_X unit that is not otherwise required to have a title V operating permit are not required to submit a CAIR permit application, and to have a CAIR permit, under subpart CC of this part for such CAIR NO_X source and such CAIR NO_X unit.

(b) *Monitoring, reporting, and recordkeeping requirements.* (1) The owners and operators, and the CAIR designated representative, of each CAIR NO_X source and each CAIR NO_X unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of subpart HH of this part.

(2) The emissions measurements recorded and reported in accordance with subpart HH of this part shall be used to determine compliance by each CAIR NO_X source with the CAIR NO_X emissions limitation under paragraph (c) of this section.

(c) *Nitrogen oxides emission requirements.* (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_X source and each CAIR NO_X unit at the source shall hold, in the source's compliance account, CAIR NO_X allowances available for compliance deductions for the control period under § 97.154(a) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_X units at the source, as determined in accordance with subpart HH of this part.

(2) A CAIR NO_X unit shall be subject to the requirements under paragraph (c)(1) of this section for the control period starting on the later of January 1, 2009 or the deadline for meeting the unit's monitor certification requirements under § 97.170(b)(1), (2), or (5) and for each control period thereafter.

(3) A CAIR NO_X allowance shall not be deducted, for compliance with the requirements under paragraph (c)(1) of this section, for a control period in a calendar year before the year for which the CAIR NO_X allowance was allocated.

(4) CAIR NO_X allowances shall be held in, deducted from, or transferred into or among CAIR NO_X Allowance Tracking System accounts in accordance with subparts EE, FF, GG, and II of this part.

(5) A CAIR NO_X allowance is a limited authorization to emit one ton of nitrogen oxides in accordance with the CAIR NO_X Annual Trading Program. No provision of the CAIR NO_X Annual Trading Program, the CAIR permit application, the CAIR permit, or an exemption under § 97.105 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.

(6) A CAIR NO_X allowance does not constitute a property right.

(7) Upon recordation by the Administrator under subpart EE, FF, GG, or II of this part, every allocation, transfer, or deduction of a CAIR NO_X allowance to or from a CAIR NO_X source's compliance account is incorporated automatically in any CAIR permit of the source.

(d) *Excess emissions requirements.* If a CAIR NO_X source emits nitrogen oxides during any control period in excess of the CAIR NO_X emissions limitation, then:

(1) The owners and operators of the source and each CAIR NO_X unit at the source shall surrender the CAIR NO_X allowances required for deduction under § 97.154(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart, the Clean Air Act, and applicable State law.

(e) *Recordkeeping and reporting requirements.* (1) Unless otherwise provided, the owners and operators of the CAIR NO_X source and each CAIR NO_X unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the permitting authority or the Administrator.

(i) The certificate of representation under § 97.113 for the CAIR designated representative for the source and each CAIR NO_X unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under § 97.113 changing the CAIR designated representative.

(ii) All emissions monitoring information, in accordance with subpart HH

of this part, provided that to the extent that subpart HH of this part provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO_X Annual Trading Program.

(iv) Copies of all documents used to complete a CAIR permit application and any other submission under the CAIR NO_X Annual Trading Program or to demonstrate compliance with the requirements of the CAIR NO_X Annual Trading Program.

(2) The CAIR designated representative of a CAIR NO_X source and each CAIR NO_X unit at the source shall submit the reports required under the CAIR NO_X Annual Trading Program, including those under subpart HH of this part.

(f) *Liability*. (1) Each CAIR NO_X source and each CAIR NO_X unit shall meet the requirements of the CAIR NO_X Annual Trading Program.

(2) Any provision of the CAIR NO_X Annual Trading Program that applies to a CAIR NO_X source or the CAIR designated representative of a CAIR NO_X source shall also apply to the owners and operators of such source and of the CAIR NO_X units at the source.

(3) Any provision of the CAIR NO_X Annual Trading Program that applies to a CAIR NO_X unit or the CAIR designated representative of a CAIR NO_X unit shall also apply to the owners and operators of such unit.

(g) *Effect on other authorities*. No provision of the CAIR NO_X Annual Trading Program, a CAIR permit application, a CAIR permit, or an exemption under § 97.105 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_X source or CAIR NO_X unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

§ 97.107 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the CAIR NO_X Annual Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the CAIR NO_X Annual Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the CAIR NO_X Annual Trading Program, falls on a weekend or a State or Federal holiday, the time period shall be extended to the next business day.

§ 97.108 Appeal procedures.

The appeal procedures for decisions of the Administrator under the CAIR NO_X Annual Trading Program are set forth in part 78 of this chapter.

Subpart BB—CAIR Designated Representative for CAIR NO_X Sources

§ 97.110 Authorization and responsibilities of CAIR designated representative.

(a) Except as provided under § 97.111, each CAIR NO_X source, including all CAIR NO_X units at the source, shall have one and only one CAIR designated representative, with regard to all matters under the CAIR NO_X Annual Trading Program concerning the source or any CAIR NO_X unit at the source.

(b) The CAIR designated representative of the CAIR NO_X source shall be selected by an agreement binding on the owners and operators of the source and all CAIR NO_X units at the source and shall act in accordance with the certification statement in § 97.113(a)(4)(iv).

(c) Upon receipt by the Administrator of a complete certificate of representation under § 97.113, the CAIR designated representative of the source shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the CAIR NO_X source represented and each CAIR NO_X unit at the source in all matters pertaining to the CAIR NO_X Annual Trading Program, notwithstanding any agreement

between the CAIR designated representative and such owners and operators. The owners and operators shall be bound by any decision or order issued to the CAIR designated representative by the permitting authority, the Administrator, or a court regarding the source or unit.

(d) No CAIR permit will be issued, no emissions data reports will be accepted, and no CAIR NO_X Allowance Tracking System account will be established for a CAIR NO_X unit at a source, until the Administrator has received a complete certificate of representation under § 97.113 for a CAIR designated representative of the source and the CAIR NO_X units at the source.

(e)(1) Each submission under the CAIR NO_X Annual Trading Program shall be submitted, signed, and certified by the CAIR designated representative for each CAIR NO_X source on behalf of which the submission is made. Each such submission shall include the following certification statement by the CAIR designated representative: ''I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) The permitting authority and the Administrator will accept or act on a submission made on behalf of owner or operators of a CAIR NO_X source or a CAIR NO_X unit only if the submission has been made, signed, and certified in accordance with paragraph (e)(1) of this section.

§ 97.111 Alternate CAIR designated representative.

(a) A certificate of representation under § 97.113 may designate one and only one alternate CAIR designated representative, who may act on behalf of the CAIR designated representative. The agreement by which the alternate CAIR designated representative is selected shall include a procedure for authorizing the alternate CAIR designated representative to act in lieu of the CAIR designated representative.

(b) Upon receipt by the Administrator of a complete certificate of representation under § 97.113, any representation, action, inaction, or submission by the alternate CAIR designated representative shall be deemed to be a representation, action, inaction, or submission by the CAIR designated representative.

(c) Except in this section and §§ 97.102, 97.110(a) and (d), 97.112, 97.113, 97.115, 97.151 and 97.182, whenever the term ''CAIR designated representative'' is used in subparts AA through II of this part, the term shall be construed to include the CAIR designated representative or any alternate CAIR designated representative.

§ 97.112 Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.

(a) *Changing CAIR designated representative.* The CAIR designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.113. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CAIR designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new CAIR designated representative and the owners and operators of the CAIR NO_X source and the CAIR NO_X units at the source.

(b) *Changing alternate CAIR designated representative.* The alternate CAIR designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under

§ 97.113. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate CAIR designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new alternate CAIR designated representative and the owners and operators of the CAIR NO_X source and the CAIR NO_X units at the source.

(c) *Changes in owners and operators.* (1) In the event an owner or operator of a CAIR NO_X source or a CAIR NO_X unit is not included in the list of owners and operators in the certificate of representation under § 97.113, such owner or operator shall be deemed to be subject to and bound by the certificate of representation, the representations, actions, inactions, and submissions of the CAIR designated representative and any alternate CAIR designated representative of the source or unit, and the decisions and orders of the permitting authority, the Administrator, or a court, as if the owner or operator were included in such list.

(2) Within 30 days following any change in the owners and operators of a CAIR NO_X source or a CAIR NO_X unit, including the addition of a new owner or operator, the CAIR designated representative or any alternate CAIR designated representative shall submit a revision to the certificate of representation under § 97.113 amending the list of owners and operators to include the change.

§ 97.113 Certificate of representation.

(a) A complete certificate of representation for a CAIR designated representative or an alternate CAIR designated representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the CAIR NO_X source, and each CAIR NO_X unit at the source, for which the certificate of representation is submitted, including identification and nameplate capacity of each generator served by each such unit.

(2) The name, address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the CAIR designated representative and any alternate CAIR designated representative.

(3) A list of the owners and operators of the CAIR NO_X source and of each CAIR NO_X unit at the source.

(4) The following certification statements by the CAIR designated representative and any alternate CAIR designated representative—

(i) ''I certify that I was selected as the CAIR designated representative or alternate CAIR designated representative, as applicable, by an agreement binding on the owners and operators of the source and each CAIR NO_X unit at the source.''

(ii) ''I certify that I have all the necessary authority to carry out my duties and responsibilities under the CAIR NO_X Annual Trading Program on behalf of the owners and operators of the source and of each CAIR NO_X unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions.''

(iii) ''I certify that the owners and operators of the source and of each CAIR NO_X unit at the source shall be bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.''

(iv) Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, a CAIR NO_X unit, or where a utility or industrial customer purchases power from a CAIR NO_X unit under a life-of-the-unit, firm power contractual arrangement, I certify that: I have given a written notice of my selection as the 'CAIR designated representative' or 'alternate CAIR designated representative', as applicable, and of the agreement by which I was selected to each owner and operator of the source and of each CAIR NO_X unit at the source; and CAIR NO_X allowances and proceeds of transactions involving CAIR NO_X allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, except that, if such multiple holders have expressly provided for a different distribution of CAIR NO_X allowances by contract, CAIR NO_X allowances and proceeds of

transactions involving CAIR NO_X allowances will be deemed to be held or distributed in accordance with the contract.''

(5) The signature of the CAIR designated representative and any alternate CAIR designated representative and the dates signed.

(b) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the certificate of representation shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006]

§ 97.114 Objections concerning CAIR designated representative.

(a) Once a complete certificate of representation under § 97.113 has been submitted and received, the permitting authority and the Administrator will rely on the certificate of representation unless and until a superseding complete certificate of representation under § 97.113 is received by the Administrator.

(b) Except as provided in § 97.112(a) or (b), no objection or other communication submitted to the permitting authority or the Administrator concerning the authorization, or any representation, action, inaction, or submission, of the CAIR designated representative shall affect any representation, action, inaction, or submission of the CAIR designated representative or the finality of any decision or order by the permitting authority or the Administrator under the CAIR NO_X Annual Trading Program.

(c) Neither the permitting authority nor the Administrator will adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any CAIR designated representative, including private legal disputes concerning the proceeds of CAIR NO_X allowance transfers.

§ 97.115 Delegation by CAIR designated representative and alternate CAIR designated representative.

(a) A CAIR designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this part.

(b) An alternate CAIR designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this part.

(c) In order to delegate authority to make an electronic submission to the Administrator in accordance with paragraph (a) or (b) of this section, the CAIR designated representative or alternate CAIR designated representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(1) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such CAIR designated representative or alternate CAIR designated representative;

(2) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to as an ''agent'');

(3) For each such natural person, a list of the type or types of electronic submissions under paragraph (a) or (b) of this section for which authority is delegated to him or her; and

(4) The following certification statements by such CAIR designated representative or alternate CAIR designated representative:

(i) ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a CAIR designated representative or alternate CAIR designated representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.115(d) shall be deemed to be an electronic submission by me.''

(ii) ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.115(d), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.115 is terminated.''.

(d) A notice of delegation submitted under paragraph (c) of this section shall be effective, with regard to the CAIR designated representative or alternate CAIR designated representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such CAIR designated representative or alternate CAIR designated representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(e) Any electronic submission covered by the certification in paragraph (c)(4)(i) of this section and made in accordance with a notice of delegation effective under paragraph (d) of this section shall be deemed to be an electronic submission by the CAIR designated representative or alternate CAIR designated representative submitting such notice of delegation.

Subpart CC—Permits

§ 97.120 General CAIR NO_X Annual Trading Program permit requirements.

(a) For each CAIR NO_X source required to have a title V operating permit or required, under subpart II of this part, to have a title V operating permit or other federally enforceable permit, such permit shall include a CAIR permit administered by the permitting authority for the title V operating permit or the federally enforceable permit as applicable. The CAIR portion of the title V permit or other federally enforceable permit as applicable shall be administered in accordance with the permitting authority's title V operating permits regulations promulgated under part 70 or 71 of this chapter or the permitting authority's regulations for other federally enforceable permits as applicable, except as provided otherwise by § 97.105, this subpart, and subpart II of this part.

(b) Each CAIR permit shall contain, with regard to the CAIR NO_X source and the CAIR NO_X units at the source covered by the CAIR permit, all applicable CAIR NO_X Annual Trading Program, CAIR NO_X Ozone Season Trading Program, and CAIR SO_2 Trading Program requirements and shall be a complete and separable portion of the title V operating permit or other federally enforceable permit under paragraph (a) of this section.

§ 97.121 Submission of CAIR permit applications.

(a) *Duty to apply*. The CAIR designated representative of any CAIR NO_X source required to have a title V operating permit shall submit to the permitting authority a complete CAIR permit application under § 97.122 for the source covering each CAIR NO_X unit at the source at least 18 months (or such lesser time provided by the permitting authority) before the later of January 1, 2009 or the date on which the CAIR NO_X unit commences commercial operation, except as provided in § 97.183(a).

(b) *Duty to reapply*. For a CAIR NO_X source required to have a title V operating permit, the CAIR designated representative shall submit a complete CAIR permit application under § 97.122 for the source covering each CAIR NO_X unit at the source to renew the CAIR permit in accordance with the permitting authority's title V operating permits regulations addressing permit renewal, except as provided in § 97.183(b).

§ 97.122 Information requirements for CAIR permit applications.

A complete CAIR permit application shall include the following elements concerning the CAIR NO_X source for which the application is submitted, in a format prescribed by the permitting authority:

(a) Identification of the CAIR NO_X source;

(b) Identification of each CAIR NO_X unit at the CAIR NO_X source; and

(c) The standard requirements under § 97.106.

§ 97.123 CAIR permit contents and term.

(a) Each CAIR permit will contain, in a format prescribed by the permitting authority, all elements required for a complete CAIR permit application under § 97.122.

(b) Each CAIR permit is deemed to incorporate automatically the definitions of terms under § 97.102 and, upon recordation by the Administrator under subpart EE, FF, GG, or II of this part, every allocation, transfer, or deduction of a CAIR NO_X allowance to or from the compliance account of the CAIR NO_X source covered by the permit.

(c) The term of the CAIR permit will be set by the permitting authority, as necessary to facilitate coordination of the renewal of the CAIR permit with issuance, revision, or renewal of the CAIR NO_X source's title V operating permit or other federally enforceable permit as applicable.

§ 97.124 CAIR permit revisions.

Except as provided in § 97.123(b), the permitting authority will revise the CAIR permit, as necessary, in accordance with the permitting authority's title V operating permits regulations or the permitting authority's regulations for other federally enforceable permits as applicable addressing permit revisions.

Subpart DD [Reserved]

Subpart EE—CAIR NO_X Allowance Allocations

§ 97.140 State trading budgets.

The State trading budgets for annual allocations of CAIR NO_X allowances for the control periods in 2009 through 2014 and in 2015 and thereafter are respectively as follows:

State	State trading budget for 2009–2014 (tons)	State trading budget for 2015 and thereafter (tons)
Alabama	69,020	57,517
Delaware	4,166	3,472
District of Columbia	144	120
Florida	99,445	82,871
Georgia	66,321	55,268
Illinois	76,230	63,525
Indiana	108,935	90,779
Iowa	32,692	27,243
Kentucky	83,205	69,337
Louisiana	35,512	29,593
Maryland	27,724	23,104
Michigan	65,304	54,420
Minnesota	31,443	26,203
Mississippi	17,807	14,839
Missouri	59,871	49,892
New Jersey	12,670	10,558
New York	45,617	38,014
North Carolina	62,183	51,819
Ohio	108,667	90,556
Pennsylvania	99,049	82,541
South Carolina	32,662	27,219
Tennessee	50,973	42,478
Texas	181,014	150,845
Virginia	36,074	30,062
West Virginia	74,220	61,850
Wisconsin	40,759	33,966
Total	1,521,707	1,268,091

§ 97.141 Timing requirements for CAIR NO_X allowance allocations.

(a) The Administrator will determine by order the CAIR NO_X allowance allocations, in accordance with § 97.142(a) and (b), for the control periods in 2009, 2010, 2011, 2012, 2013, and 2014.

(b) By July 31, 2011 and July 31 of each year thereafter, the Administrator will determine by order the CAIR NO_X allowance allocations, in accordance with § 97.142(a) and (b), for the control period in the fourth year after the year of the applicable deadline for determination under this paragraph.

(c) By July 31, 2009 and July 31 of each year thereafter, the Administrator will determine by order the CAIR NO_X allowance allocations, in accordance with § 97.142(a),(c), and (d), for the control period in the year of the applicable deadline for determination under this paragraph.

(d) The Administrator will make available to the public each determination of CAIR NO_X allowances under paragraph (a), (b), or (c) of this section and will provide an opportunity for submission of objections to the determination. Objections shall be limited to addressing whether the determination is in accordance with § 97.142. Based on any such objections, the Administrator will adjust each determination to the extent necessary to ensure that it is in accordance with § 97.142.

§ 97.142 CAIR NO_X allowance allocations.

(a)(1) The baseline heat input (in mmBtu) used with respect to CAIR NO_X allowance allocations under paragraph (b) of this section for each CAIR NO_X unit will be:

(i) For units commencing operation before January 1, 2001 the average of the 3 highest amounts of the unit's adjusted control period heat input for 2000 through 2004, with the adjusted control period heat input for each year calculated as follows:

(A) If the unit is coal-fired during the year, the unit's control period heat input for such year is multiplied by 100 percent;

(B) If the unit is oil-fired during the year, the unit's control period heat input for such year is multiplied by 60 percent; and

(C) If the unit is not subject to paragraph (a)(1)(i)(A) or (B) of this section, the unit's control period heat input for such year is multiplied by 40 percent.

(ii) For units commencing operation on or after January 1, 2001 and operating each calendar year during a period of 5 or more consecutive calendar years, the average of the 3 highest amounts of the unit's total converted control period heat input over the first such 5 years.

(2)(i) A unit's control period heat input, and a unit's status as coal-fired or oil-fired, for a calendar year under paragraph (a)(1)(i) of this section, and a unit's total tons of NO_X emissions during a calendar year under paragraph (c)(3) of this section, will be determined in accordance with part 75 of this chapter, to the extent the unit was otherwise subject to the requirements of part 75 of this chapter for the year, or will be based on the best available data reported to the Administrator for the unit (in a format prescribed by the Administrator), to the extent the unit was not otherwise subject to the requirements of part 75 of this chapter for the year.

(ii) A unit's converted control period heat input for a calendar year specified under paragraph (a)(1)(ii) of this section equals:

(A) Except as provided in paragraph (a)(2)(ii)(B) or (C) of this section, the control period gross electrical output of the generator or generators served by the unit multiplied by 7,900 Btu/kWh, if the unit is coal-fired for the year, or 6,675 Btu/kWh, if the unit is not coal-fired for the year, and divided by 1,000,000 Btu/mmBtu, provided that if a generator is served by 2 or more units, then the gross electrical output of the generator will be attributed to each unit in proportion to the unit's share of the total control period heat input of such units for the year;

(B) For a unit that is a boiler and has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the total heat energy (in Btu) of the steam produced by the boiler during the control period, divided by 0.8 and by 1,000,000 Btu/mmBtu; or

(C) For a unit that is a combustion turbine and has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the control period gross electrical output of the enclosed device comprising the compressor, combustor, and turbine multiplied by 3,413 Btu/kWh, plus the total heat energy (in Btu) of the steam produced by any associated heat recovery steam generator during the control period divided by 0.8, and with the sum divided by 1,000,000 Btu/mmBtu.

(iii) Gross electrical output and total heat energy under paragraph (a)(2)(ii) of this section will be determined based on the best available data reported to the Administrator for the unit (in a format prescribed by the Administrator).

(3) The Administrator will determine what data are the best available data under paragraph (a)(2) of this section by weighing the likelihood that data are accurate and reliable and giving greater weight to data submitted to a governmental entity in compliance with legal requirements or substantiated by an independent entity.

(b)(1) For each control period in 2009 and thereafter, the Administrator will allocate to all CAIR NO_X units in a State that have a baseline heat input (as determined under paragraph (a) of this section) a total amount of CAIR NO_X allowances equal to 95 percent for

a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the tons of NO_X emissions in the applicable State trading budget under § 97.140 (except as provided in paragraphs (d) and (e) of this section).

(2) The Administrator will allocate CAIR NO_X allowances to each CAIR NO_X unit under paragraph (b)(1) of this section in an amount determined by multiplying the total amount of CAIR NO_X allowances allocated under paragraph (b)(1) of this section by the ratio of the baseline heat input of such CAIR NO_X unit to the total amount of baseline heat input of all such CAIR NO_X units in the State and rounding to the nearest whole allowance as appropriate.

(c) For each control period in 2009 and thereafter, the Administrator will allocate CAIR NO_X allowances to CAIR NO_X units in a State that are not allocated CAIR NO_X allowances under paragraph (b) of this section because the units do not yet have a baseline heat input under paragraph (a) of this section or because the units have a baseline heat input but all CAIR NO_X allowances available under paragraph (b) of this section for the control period are already allocated, in accordance with the following procedures:

(1) The Administrator will establish a separate new unit set-aside for each control period. Each new unit set-aside will be allocated CAIR NO_X allowances equal to 5 percent for a control period in 2009 through 2014, and 3 percent for a control period in 2015 and thereafter, of the amount of tons of NO_X emissions in the applicable State trading budget under § 97.140.

(2) The CAIR designated representative of such a CAIR NO_X unit may submit to the Administrator a request, in a format specified by the Administrator, to be allocated CAIR NO_X allowances, starting with the later of the control period in 2009 or the first control period after the control period in which the CAIR NO_X unit commences commercial operation and until the first control period for which the unit is allocated CAIR NO_X allowances under paragraph (b) of this section. A separate CAIR NO_X allowance allocation request for each control period for which CAIR NO_X allowances are sought must be submitted on or before May 1 of such control period and after the date on which the CAIR NO_X unit commences commercial operation.

(3) In a CAIR NO_X allowance allocation request under paragraph (c)(2) of this section, the CAIR designated representative may request for a control period CAIR NO_X allowances in an amount not exceeding the CAIR NO_X unit's total tons of NO_X emissions during the calendar year immediately before such control period.

(4) The Administrator will review each CAIR NO_X allowance allocation request under paragraph (c)(2) of this section and will allocate CAIR NO_X allowances for each control period pursuant to such request as follows:

(i) The Administrator will accept an allowance allocation request only if the request meets, or is adjusted by the Administrator as necessary to meet, the requirements of paragraphs (c)(2) and (3) of this section.

(ii) On or after May 1 of the control period, the Administrator will determine the sum of the CAIR NO_X allowances requested (as adjusted under paragraph (c)(4)(i) of this section) in all allowance allocation requests accepted under paragraph (c)(4)(i) of this section for the control period.

(iii) If the amount of CAIR NO_X allowances in the new unit set-aside for the control period is greater than or equal to the sum under paragraph (c)(4)(ii) of this section, then the Administrator will allocate the amount of CAIR NO_X allowances requested (as adjusted under paragraph (c)(4)(i) of this section) to each CAIR NO_X unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section.

(iv) If the amount of CAIR NO_X allowances in the new unit set-aside for the control period is less than the sum under paragraph (c)(4)(ii) of this section, then the Administrator will allocate to each CAIR NO_X unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section the amount of the CAIR NO_X allowances requested (as adjusted under paragraph (c)(4)(i) of this section), multiplied by the amount of CAIR NO_X allowances in the new unit set-aside for

the control period, divided by the sum determined under paragraph (c)(4)(ii) of this section, and rounded to the nearest whole allowance as appropriate.

(v) The Administrator will notify each CAIR designated representative that submitted an allowance allocation request of the amount of CAIR NO_X allowances (if any) allocated for the control period to the CAIR NO_X unit covered by the request.

(d) If, after completion of the procedures under paragraph (c)(4) of this section for a control period, any unallocated CAIR NO_X allowances remain in the new unit set-aside under paragraph (c) of this section for a State for the control period, the Administrator will allocate to each CAIR NO_X unit that was allocated CAIR NO_X allowances under paragraph (b) of this section in the State an amount of CAIR NO_X allowances equal to the total amount of such remaining unallocated CAIR NO_X allowances, multiplied by the unit's allocation under paragraph (b) of this section, divided by 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the amount of tons of NO_X emissions in the applicable State trading budget under § 97.140, and rounded to the nearest whole allowance as appropriate.

(e) If the Administrator determines that CAIR NO_X allowances were allocated under paragraphs (a) and (b) of this section, paragraphs (a) and (c) of this section, or paragraph (d) of this section for a control period and that the recipient of the allocation is not actually a CAIR NO_X unit under § 97.104 in such control period, then the Administrator will notify the CAIR designated representative and will act in accordance with the following procedures:

(1) Except as provided in paragraph (e)(2) or (3) of this section, the Administrator will not record such CAIR NO_X allowances under § 97.153.

(2) If the Administrator already recorded such CAIR NO_X allowances under § 97.153 and if the Administrator makes such determination before making deductions for the source that includes such recipient under § 97.154(b) for the control period, then the Administrator will deduct from the account in which such CAIR NO_X allowances were recorded under § 97.153 an amount of CAIR NO_X allowances allocated for the same or a prior control period equal to the amount of such already recorded CAIR NO_X allowances. The CAIR designated representative shall ensure that there are sufficient CAIR NO_X allowances in such account for completion of the deduction.

(3) If the Administrator already recorded such CAIR NO_X allowances under § 97.153 and if the Administrator makes such determination after making deductions for the source that includes such recipient under § 97.154(b) for the control period, then the Administrator will apply paragraph (e)(1) or (2) of this section, as appropriate, to any subsequent control period for which CAIR NO_X allowances were allocated to such recipient.

(4) The Administrator will transfer the CAIR NO_X allowances that are not recorded, or that are deducted, in accordance with paragraphs (e)(1), (2), and (3) of this section to a new unit set-aside for the State in which such recipient is located.

§ 97.143 Compliance supplement pool.

(a) In addition to the CAIR NO_X allowances allocated under § 97.142, the Administrator may allocate for the control period in 2009 up to the following amount of CAIR NO_X allowances to CAIR NO_X units in the respective State:

State	Compliance supplement pool
Alabama	10,166
Delaware	843
District of Columbia	0
Florida	8,335
Georgia	12,397
Illinois	11,299
Indiana	20,155
Iowa	6,978
Kentucky	14,935
Louisiana	2,251
Maryland	4,670
Michigan	8,347
Minnesota	6,528
Mississippi	3,066
Missouri	9,044
New Jersey	660
New York	0
North Carolina	0
Ohio	25,037
Pennsylvania	16,009
South Carolina	2,600

State	Compliance supplement pool
Tennessee	8,944
Texas	772
Virginia	5,134
West Virginia	16,929
Wisconsin	4,898
Total	199,997

(b) For any CAIR NO_X unit in a State, if the unit's average annual NO_X emission rate for 2007 or 2008 is less than 0.25 lb/mmBtu and, where such unit is included in a NO_X averaging plan under §76.11 of this chapter under the Acid Rain Program for such year, the unit's NO_X averaging plan has an actual weighted average NO_X emission rate for such year equal to or less than the actual weighted average NO_X emission rate for the year before such year and if the unit achieves NO_X emission reductions in 2007 and 2008, the CAIR designated representative of the unit may request early reduction credits, and allocation of CAIR NO_X allowances from the compliance supplement pool under paragraph (a) of this section for such early reduction credits, in accordance with the following:

(1) The owners and operators of such CAIR NO_X unit shall monitor and report the NO_X emissions rate and the heat input of the unit in accordance with subpart HH of this part in each control period for which early reduction credit is requested.

(2) The CAIR designated representative of such CAIR NO_X unit shall submit to the Administrator by May 1, 2009 a request, in a format specified by the Administrator, for allocation of an amount of CAIR NO_X allowances from the compliance supplement pool not exceeding the sum of the unit's heat input for the control period in 2007 multiplied by the difference (if any greater than zero) between 0.25 lb/mmBtu and the unit's NO_X emission rate for the control period in 2007 plus the unit's heat input for the control period in 2008 multiplied by the difference (if any greater than zero) between 0.25 lb/mmBtu and the unit's NO_X emission rate for the control period in 2008, determined in accordance with subpart HH of this part and with the sum divided by 2,000 lb/ton and rounded to the nearest whole number of tons as appropriate.

(c) For any CAIR NO_X unit in a State whose compliance with the CAIR NO_X emissions limitation for the control period in 2009 would create an undue risk to the reliability of electricity supply during such control period, the CAIR designated representative of the unit may request the allocation of CAIR NO_X allowances from the compliance supplement pool under paragraph (a) of this section, in accordance with the following:

(1) The CAIR designated representative of such CAIR NO_X unit shall submit to the Administrator by May 1, 2009 a request, in a format specified by the Administrator, for allocation of an amount of CAIR NO_X allowances from the compliance supplement pool not exceeding the minimum amount of CAIR NO_X allowances necessary to remove such undue risk to the reliability of electricity supply.

(2) In the request under paragraph (c)(1) of this section, the CAIR designated representative of such CAIR NO_X unit shall demonstrate that, in the absence of allocation to the unit of the amount of CAIR NO_X allowances requested, the unit's compliance with the CAIR NO_X emissions limitation for the control period in 2009 would create an undue risk to the reliability of electricity supply during such control period. This demonstration must include a showing that it would not be feasible for the owners and operators of the unit to:

(i) Obtain a sufficient amount of electricity from other electricity generation facilities, during the installation of control technology at the unit for compliance with the CAIR NO_X emissions limitation, to prevent such undue risk; or

(ii) Obtain under paragraphs (b) and (d) of this section, or otherwise obtain, a sufficient amount of CAIR NO_X allowances to prevent such undue risk.

(d) The Administrator will review each request under paragraph (b) or (c) of this section submitted by May 1, 2009 and will allocate CAIR NO_X allowances for the control period in 2009 to CAIR NO_X units in a State and covered by such request as follows:

(1) Upon receipt of each such request, the Administrator will make any necessary adjustments to the request to ensure that the amount of the CAIR NO_X allowances requested meets the requirements of paragraph (b) or (c) of this section.

(2) If the State's compliance supplement pool under paragraph (a) of this section has an amount of CAIR NO_X allowances not less than the total amount of CAIR NO_X allowances in all such requests (as adjusted under paragraph (d)(1) of this section), the Administrator will allocate to each CAIR NO_X unit covered by such requests the amount of CAIR NO_X allowances requested (as adjusted under paragraph (d)(1) of this section).

(3) If the State's compliance supplement pool under paragraph (a) of this section has a smaller amount of CAIR NO_X allowances than the total amount of CAIR NO_X allowances in all such requests (as adjusted under paragraph (d)(1) of this section), the Administrator will allocate CAIR NO_X allowances to each CAIR NO_X unit covered by such requests according to the following formula and rounding to the nearest whole allowance as appropriate:

Unit's allocation = Unit's adjusted allocation × (State's compliance supplement pool ÷ Total adjusted allocations for all units)

Where:

''Unit's allocation'' is the amount of CAIR NO_X allowances allocated to the unit from the State's compliance supplement pool.

''Unit's adjusted allocation'' is the amount of CAIR NO_X allowances requested for the unit under paragraph (b) or (c) of this section, as adjusted under paragraph (d)(1) of this section.

''State's compliance supplement pool'' is the amount of CAIR NO_X allowances in the State's compliance supplement pool.

''Total adjusted allocations for all units'' is the sum of the amounts of allocations requested for all units under paragraph (b) or (c) of this section, as adjusted under paragraph (d)(1) of this section.

(4) By July 31, 2009, the Administrator will determine by order the allocations under paragraph (d)(2) or (3) of this section. The Administrator will make available to the public each determination of CAIR NO_X allowances under such paragraph and will provide an opportunity for submission of objections to the determination. Objections shall be limited to addressing whether the determination is in accordance with paragraph (b) or (c) of this section and paragraph (d)(2) or (3) of this section, as appropriate. Based on any such objections, the Administrator will adjust each determination to the extent necessary to ensure that it is in accordance with such paragraphs.

(5) By January 1, 2010, the Administrator will record the allocations under paragraph (d)(4) of this section.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006]

§ 97.144 Alternative of allocation of CAIR NO_X allowances and compliance supplement pool by permitting authority.

(a) Notwithstanding §§ 97.141, 97.142, and 97.153 if a State submits, and the Administrator approves, a State implementation plan revision in accordance with § 51.123(p)(1) of this chapter providing for allocation of CAIR NO_X allowances by the permitting authority, then the permitting authority shall make such allocations in accordance with such approved State implementation plan revision, the Administrator will not make allocations under §§ 97.141 and 97.142 for the CAIR NO_X units in the State, and under § 97.153, the Administrator will record the allocations made under such approved State implementation plan revision instead of allocations made under §§ 97.141 and 97.142.

(b) Notwithstanding § 97.143, if a State submits, and the Administrator approves, a State implementation plan revision in accordance with § 51.123(p)(2) of this chapter providing for allocation of the State's compliance supplement pool by the permitting authority, then the permitting authority shall make such allocations in accordance with such approved State implementation plan revision, the Administrator will not make allocations under § 97.143(d)(4) for the CAIR NO_X units in the State, and under § 97.143(d)(5), the Administrator will record the allocations of the State's compliance supplement pool made

under such approved State implementation plan revision instead of allocations made under §97.143(d)(4).

(c)(1) In implementing paragraph (a) of this section and §§97.141, 97.142, and 97.153, the Administrator will ensure that the total amount of CAIR NO_X allowances allocated, under such provisions and under a State's State implementation plan revision approved in accordance with §51.123(p)(1) of this chapter, for a control period for CAIR NO_X sources in the State or for other entities specified by the permitting authority will not exceed the State's State trading budget for the year of the control period.

(2) In implementing paragraph (b) of this section and §97.143, the Administrator will ensure that the total amount of CAIR NO_X allowances allocated, under such provisions and under a State's State implementation plan revision approved in accordance with §51.123(p)(2), for CAIR NO_X sources in the State will not exceed the State's compliance supplement pool.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006]

APPENDIX A TO SUBPART EE OF PART 97—STATES WITH APPROVED STATE IMPLEMENTATION PLAN REVISIONS CONCERNING ALLOCATIONS

1. The following States have State Implementation Plan revisions under §51.123(p)(1) of this chapter approved by the Administrator and providing for allocation of CAIR NO_X allowances by the permitting authority under §97.144(a):

Indiana
Louisiana
Michigan
New Jersey
North Carolina
Ohio
South Carolina
Tennessee
Texas (for control periods 2009–2014)
West Virginia (for control periods 2009–2014)
Wisconsin

2. The following States have State Implementation Plan revisions under §51.123(p)(2) of this chapter approved by the Administrator and providing for allocation of the Compliance Supplement Pool by the permitting authority under §97.144(b):

Indiana
Michigan
New Jersey
Ohio
South Carolina
Texas

[65 FR 2727, Jan. 18, 2000, as amended at 72 FR 41459, July 30, 2007; 72 FR 46394, Aug. 20, 2007; 72 FR 52293, Sept. 13, 2007; 72 FR 55068, Sept. 28, 2007; 72 FR 55672, Oct. 1, 2007; 72 FR 56920, Oct. 5, 2007; 72 FR 57215, Oct. 9, 2007; 72 FR 58546, Oct. 16, 2007; 72 FR 59487, Oct. 22, 2007; 72 FR 71579, Dec. 18, 2007; 72 FR 72262, Dec. 20, 2007; 73 FR 6040, Feb. 1, 2008]

Subpart FF—CAIR NO_X Allowance Tracking System

§97.150 [Reserved]

§97.151 Establishment of accounts.

(a) *Compliance accounts.* Except as provided in §97.184(e), upon receipt of a complete certificate of representation under §97.113, the Administrator will establish a compliance account for the CAIR NO_X source for which the certificate of representation was submitted, unless the source already has a compliance account.

(b) *General accounts*—(1) *Application for general account.* (i) Any person may apply to open a general account for the purpose of holding and transferring CAIR NO_X allowances. An application for a general account may designate one and only one CAIR authorized account representative and one and only one alternate CAIR authorized account representative who may act on behalf of the CAIR authorized account representative. The agreement by which the alternate CAIR authorized account representative is selected shall include a procedure for authorizing the alternate CAIR authorized account representative to act in lieu of the CAIR authorized account representative.

(ii) A complete application for a general account shall be submitted to the Administrator and shall include the following elements in a format prescribed by the Administrator:

(A) Name, mailing address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the CAIR authorized account representative and any alternate CAIR authorized account representative;

(B) Organization name and type of organization, if applicable;

(C) A list of all persons subject to a binding agreement for the CAIR authorized account representative and

any alternate CAIR authorized account representative to represent their ownership interest with respect to the CAIR NO_X allowances held in the general account;

(D) The following certification statement by the CAIR authorized account representative and any alternate CAIR authorized account representative: ''I certify that I was selected as the CAIR authorized account representative or the alternate CAIR authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to CAIR NO_X allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the CAIR NO_X Annual Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any order or decision issued to me by the Administrator or a court regarding the general account.''

(E) The signature of the CAIR authorized account representative and any alternate CAIR authorized account representative and the dates signed.

(iii) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the application for a general account shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) *Authorization of CAIR authorized account representative and alternate CAIR authorized account representative.* (i) Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section:

(A) The Administrator will establish a general account for the person or persons for whom the application is submitted.

(B) The CAIR authorized account representative and any alternate CAIR authorized account representative for the general account shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to CAIR NO_X allowances held in the general account in all matters pertaining to the CAIR NO_X Annual Trading Program, notwithstanding any agreement between the CAIR authorized account representative or any alternate CAIR authorized account representative and such person. Any such person shall be bound by any order or decision issued to the CAIR authorized account representative or any alternate CAIR authorized account representative by the Administrator or a court regarding the general account.

(C) Any representation, action, inaction, or submission by any alternate CAIR authorized account representative shall be deemed to be a representation, action, inaction, or submission by the CAIR authorized account representative.

(ii) Each submission concerning the general account shall be submitted, signed, and certified by the CAIR authorized account representative or any alternate CAIR authorized account representative for the persons having an ownership interest with respect to CAIR NO_X allowances held in the general account. Each such submission shall include the following certification statement by the CAIR authorized account representative or any alternate CAIR authorized account representative: ''I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the CAIR NO_X allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(iii) The Administrator will accept or act on a submission concerning the

general account only if the submission has been made, signed, and certified in accordance with paragraph (b)(2)(ii) of this section.

(3) *Changing CAIR authorized account representative and alternate CAIR authorized account representative; changes in persons with ownership interest.* (i) The CAIR authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CAIR authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new CAIR authorized account representative and the persons with an ownership interest with respect to the CAIR NO_X allowances in the general account.

(ii) The alternate CAIR authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate CAIR authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate CAIR authorized account representative and the persons with an ownership interest with respect to the CAIR NO_X allowances in the general account.

(iii)(A) In the event a person having an ownership interest with respect to CAIR NO_X allowances in the general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representation, actions, inactions, and submissions of the CAIR authorized account representative and any alternate CAIR authorized account representative of the account, and the decisions and orders of the Administrator or a court, as if the person were included in such list.

(B) Within 30 days following any change in the persons having an ownership interest with respect to CAIR NO_X allowances in the general account, including the addition of a new person, the CAIR authorized account representative or any alternate CAIR authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the CAIR NO_X allowances in the general account to include the change.

(4) *Objections concerning CAIR authorized account representative and alternate CAIR authorized account representative.* (i) Once a complete application for a general account under paragraph (b)(1) of this section has been submitted and received, the Administrator will rely on the application unless and until a superseding complete application for a general account under paragraph (b)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (b)(3)(i) or (ii) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative for a general account shall affect any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative or the finality of any decision or order by the Administrator under the CAIR NO_X Annual Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative for a general account, including private legal disputes concerning the proceeds of CAIR NO_X allowance transfers.

(5) *Delegation by CAIR authorized account representative and alternate CAIR authorized account representative.* (i) A

CAIR authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under subparts FF and GG of this part.

(ii) An alternate CAIR authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under subparts FF and GG of this part.

(iii) In order to delegate authority to make an electronic submission to the Administrator in accordance with paragraph (b)(5)(i) or (ii) of this section, the CAIR authorized account representative or alternate CAIR authorized account representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(A) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such CAIR authorized account representative or alternate CAIR authorized account representative;

(B) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to as an ''agent'');

(C) For each such natural person, a list of the type or types of electronic submissions under paragraph (b)(5)(i) or (ii) of this section for which authority is delegated to him or her;

(D) The following certification statement by such CAIR authorized account representative or alternate CAIR authorized account representative: ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a CAIR authorized account representative or alternate CAIR authorized representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.151(b)(5)(iv) shall be deemed to be an electronic submission by me.''; and

(E) The following certification statement by such CAIR authorized account representative or alternate CAIR authorized account representative: ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.151(b)(5)(iv), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.151(b)(5) is terminated.''.

(iv) A notice of delegation submitted under paragraph (b)(5)(iii) of this section shall be effective, with regard to the CAIR authorized account representative or alternate CAIR authorized account representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such CAIR authorized account representative or alternate CAIR authorized account representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(v) Any electronic submission covered by the certification in paragraph (b)(5)(iii)(D) of this section and made in accordance with a notice of delegation effective under paragraph (b)(5)(iv) of this section shall be deemed to be an electronic submission by the CAIR designated representative or alternate CAIR designated representative submitting such notice of delegation.

(c) *Account identification.* The Administrator will assign a unique identifying number to each account established under paragraph (a) or (b) of this section.

§ 97.152 Responsibilities of CAIR authorized account representative.

Following the establishment of a CAIR NO_X Allowance Tracking System account, all submissions to the Administrator pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of CAIR NO_X allowances in the account, shall be made only by the CAIR authorized account representative for the account.

§ 97.153 Recordation of CAIR NO_X allowance allocations.

(a) By September 30, 2007, the Administrator will record in the CAIR NO_X source's compliance account the CAIR NO_X allowances allocated for the CAIR NO_X units at the source in accordance with § 97.142(a) and (b) for the control period in 2009.

(b) By September 30, 2008, the Administrator will record in the CAIR NO_X source's compliance account the CAIR NO_X allowances allocated for the CAIR NO_X units at the source in accordance with § 97.142(a) and (b) for the control period in 2010.

(c) By September 30, 2009, the Administrator will record in the CAIR NO_X source's compliance account the CAIR NO_X allowances allocated for the CAIR NO_X units at the source in accordance with § 97.142(a) and (b) for the control periods in 2011, 2012, and 2013.

(d) By December 1, 2010 and December 1 of each year thereafter, the Administrator will record in the CAIR NO_X source's compliance account the CAIR NO_X allowances allocated for the CAIR NO_X units at the source in accordance with § 97.142(a) and (b) for the control period in the fourth year after the year of the applicable deadline for recordation under this paragraph.

(e) By December 1, 2009 and December 1 of each year thereafter, the Administrator will record in the CAIR NO_X source's compliance account the CAIR NO_X allowances allocated for the CAIR NO_X units at the source in accordance with § 97.142(a) and (c) for the control period in the year of the applicable deadline for recordation under this paragraph.

(f) *Serial numbers for allocated CAIR NO_X allowances*. When recording the allocation of CAIR NO_X allowances for a CAIR NO_X unit in a compliance account, the Administrator will assign each CAIR NO_X allowance a unique identification number that will include digits identifying the year of the control period for which the CAIR NO_X allowance is allocated.

§ 97.154 Compliance with CAIR NO_X emissions limitation.

(a) *Allowance transfer deadline*. The CAIR NO_X allowances are available to be deducted for compliance with a source's CAIR NO_X emissions limitation for a control period in a given calendar year only if the CAIR NO_X allowances:

(1) Were allocated for the control period in the year or a prior year; and

(2) Are held in the compliance account as of the allowance transfer deadline for the control period or are transferred into the compliance account by a CAIR NO_X allowance transfer correctly submitted for recordation under §§ 97.160 and 97.161 by the allowance transfer deadline for the control period.

(b) *Deductions for compliance*. Following the recordation, in accordance with § 97.161, of CAIR NO_X allowance transfers submitted for recordation in a source's compliance account by the allowance transfer deadline for a control period, the Administrator will deduct from the compliance account CAIR NO_X allowances available under paragraph (a) of this section in order to determine whether the source meets the CAIR NO_X emissions limitation for the control period, as follows:

(1) Until the amount of CAIR NO_X allowances deducted equals the number of tons of total nitrogen oxides emissions, determined in accordance with subpart HH of this part, from all CAIR NO_X units at the source for the control period; or

(2) If there are insufficient CAIR NO_X allowances to complete the deductions in paragraph (b)(1) of this section, until no more CAIR NO_X allowances available under paragraph (a) of this section remain in the compliance account.

(c)(1) *Identification of CAIR NO_X allowances by serial number*. The CAIR authorized account representative for a source's compliance account may request that specific CAIR NO_X allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period in accordance with paragraph (b) or (d) of this section. Such request shall be submitted to the Administrator by the allowance transfer deadline for the control period and include, in a format prescribed by the Administrator, the identification of the CAIR NO_X source and the appropriate serial numbers.

(2) *First-in, first-out.* The Administrator will deduct CAIR NO_X allowances under paragraph (b) or (d) of this section from the source's compliance account, in the absence of an identification or in the case of a partial identification of CAIR NO_X allowances by serial number under paragraph (c)(1) of this section, on a first-in, first-out (FIFO) accounting basis in the following order:

(i) Any CAIR NO_X allowances that were allocated to the units at the source, in the order of recordation; and then

(ii) Any CAIR NO_X allowances that were allocated to any entity and transferred and recorded in the compliance account pursuant to subpart GG of this part, in the order of recordation.

(d) *Deductions for excess emissions.* (1) After making the deductions for compliance under paragraph (b) of this section for a control period in a calendar year in which the CAIR NO_X source has excess emissions, the Administrator will deduct from the source's compliance account an amount of CAIR NO_X allowances, allocated for the control period in the immediately following calendar year, equal to 3 times the number of tons of the source's excess emissions.

(2) Any allowance deduction required under paragraph (d)(1) of this section shall not affect the liability of the owners and operators of the CAIR NO_X source or the CAIR NO_X units at the source for any fine, penalty, or assessment, or their obligation to comply with any other remedy, for the same violations, as ordered under the Clean Air Act or applicable State law.

(e) *Recordation of deductions.* The Administrator will record in the appropriate compliance account all deductions from such an account under paragraphs (b) and (d) of this section and subpart II.

(f) *Administrator's action on submissions.* (1) The Administrator may review and conduct independent audits concerning any submission under the CAIR NO_X Annual Trading Program and make appropriate adjustments of the information in the submissions.

(2) The Administrator may deduct CAIR NO_X allowances from or transfer CAIR NO_X allowances to a source's compliance account based on the information in the submissions, as adjusted under paragraph (f)(1) of this section, and record such deductions and transfers.

§ 97.155 Banking.

(a) CAIR NO_X allowances may be banked for future use or transfer in a compliance account or a general account in accordance with paragraph (b) of this section.

(b) Any CAIR NO_X allowance that is held in a compliance account or a general account will remain in such account unless and until the CAIR NO_X allowance is deducted or transferred under § 97.142, § 97.154, § 97.156, or subpart GG or II of this part.

§ 97.156 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any CAIR NO_X Allowance Tracking System account. Within 10 business days of making such correction, the Administrator will notify the CAIR authorized account representative for the account.

§ 97.157 Closing of general accounts.

(a) The CAIR authorized account representative of a general account may submit to the Administrator a request to close the account, which shall include a correctly submitted allowance transfer under §§ 97.160 and 97.161 for any CAIR NO_X allowances in the account to one or more other CAIR NO_X Allowance Tracking System accounts.

(b) If a general account has no allowance transfers in or out of the account for a 12-month period or longer and does not contain any CAIR NO_X allowances, the Administrator may notify the CAIR authorized account representative for the account that the account will be closed following 20 business days after the notice is sent. The account will be closed after the 20-day period unless, before the end of the 20-day period, the Administrator receives a correctly submitted transfer of CAIR NO_X allowances into the account under §§ 97.160 and 97.161 or a statement submitted by the CAIR authorized account representative demonstrating to the satisfaction of the Administrator good

cause as to why the account should not be closed.

Subpart GG—CAIR NO_X Allowance Transfers

§ 97.160 Submission of CAIR NO_X allowance transfers.

A CAIR authorized account representative seeking recordation of a CAIR NO_X allowance transfer shall submit the transfer to the Administrator. To be considered correctly submitted, the CAIR NO_X allowance transfer shall include the following elements, in a format specified by the Administrator:

(a) The account numbers for both the transferor and transferee accounts;

(b) The serial number of each CAIR NO_X allowance that is in the transferor account and is to be transferred; and

(c) The name and signature of the CAIR authorized account representative of the transferor account and the date signed.

§ 97.161 EPA recordation.

(a) Within 5 business days (except as provided in paragraph (b) of this section) of receiving a CAIR NO_X allowance transfer, the Administrator will record a CAIR NO_X allowance transfer by moving each CAIR NO_X allowance from the transferor account to the transferee account as specified by the request, provided that:

(1) The transfer is correctly submitted under § 97.160; and

(2) The transferor account includes each CAIR NO_X allowance identified by serial number in the transfer.

(b) A CAIR NO_X allowance transfer that is submitted for recordation after the allowance transfer deadline for a control period and that includes any CAIR NO_X allowances allocated for any control period before such allowance transfer deadline will not be recorded until after the Administrator completes the deductions under § 97.154 for the control period immediately before such allowance transfer deadline.

(c) Where a CAIR NO_X allowance transfer submitted for recordation fails to meet the requirements of paragraph (a) of this section, the Administrator will not record such transfer.

§ 97.162 Notification.

(a) *Notification of recordation.* Within 5 business days of recordation of a CAIR NO_X allowance transfer under § 97.161, the Administrator will notify the CAIR authorized account representatives of both the transferor and transferee accounts.

(b) *Notification of non-recordation.* Within 10 business days of receipt of a CAIR NO_X allowance transfer that fails to meet the requirements of § 97.161(a), the Administrator will notify the CAIR authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer, and

(2) The reasons for such non-recordation.

(c) Nothing in this section shall preclude the submission of a CAIR NO_X allowance transfer for recordation following notification of non-recordation.

Subpart HH—Monitoring and Reporting

§ 97.170 General requirements.

The owners and operators, and to the extent applicable, the CAIR designated representative, of a CAIR NO_X unit, shall comply with the monitoring, recordkeeping, and reporting requirements as provided in this subpart and in subpart H of part 75 of this chapter. For purposes of complying with such requirements, the definitions in § 97.102 and in § 72.2 of this chapter shall apply, and the terms ''affected unit,'' ''designated representative,'' and ''continuous emission monitoring system'' or ''CEMS'') in part 75 of this chapter shall be deemed to refer to the terms ''CAIR NO_X unit,'' ''CAIR designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') respectively, as defined in § 97.102. The owner or operator of a unit that is not a CAIR NO_X unit but that is monitored under § 75.72(b)(2)(ii) of this chapter shall comply with the same monitoring, recordkeeping, and reporting requirements as a CAIR NO_X unit.

(a) *Requirements for installation, certification, and data accounting.* The owner or operator of each CAIR NO_X unit shall:

(1) Install all monitoring systems required under this subpart for monitoring NO_X mass emissions and individual unit heat input (including all systems required to monitor NO_X emission rate, NO_X concentration, stack gas moisture content, stack gas flow rate, CO_2 or O_2 concentration, and fuel flow rate, as applicable, in accordance with (§§ 75.71 and 75.72 of this chapter);

(2) Successfully complete all certification tests required under § 97.171 and meet all other requirements of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraph (a)(1) of this section; and

(3) Record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section.

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the following dates. The owner or operator shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the following dates.

(1) For the owner or operator of a CAIR NO_X unit that commences commercial operation before July 1, 2007, by January 1, 2008.

(2) For the owner or operator of a CAIR NO_X unit that commences commercial operation on or after July 1, 2007, by the later of the following dates:

(i) January 1, 2008; or

(ii) 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which the unit commences commercial operation.

(3) For the owner or operator of a CAIR NO_X unit for which construction of a new stack or flue or installation of add-on NO_X emission controls is completed after the applicable deadline under paragraph (b)(1), (2), (4), or (5) of this section, by 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which emissions first exit to the atmosphere through the new stack or flue or add-on NO_X emissions controls.

(4) Notwithstanding the dates in paragraphs (b)(1) and (2) of this section, for the owner or operator of a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart II of this part, by the date specified in § 97.184(b).

(5) Notwithstanding the dates in paragraphs (b)(1) and (2) of this section, for the owner or operator of a CAIR NO_X opt-in unit under subpart II of this part, by the date on which the CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program as provided in § 97.184(g).

(c) *Reporting data.* The owner or operator of a CAIR NO_X unit that does not meet the applicable compliance date set forth in paragraph (b) of this section for any monitoring system under paragraph (a)(1) of this section shall, for each such monitoring system, determine, record, and report maximum potential (or, as appropriate, minimum potential) values for NO_X concentration, NO_X emission rate, stack gas flow rate, stack gas moisture content, fuel flow rate, and any other parameters required to determine NO_X mass emissions and heat input in accordance with § 75.31(b)(2) or (c)(3) of this chapter, section 2.4 of appendix D to part 75 of this chapter, or section 2.5 of appendix E to part 75 of this chapter, as applicable.

(d) *Prohibitions.* (1) No owner or operator of a CAIR NO_X unit shall use any alternative monitoring system, alternative reference method, or any other alternative to any requirement of this subpart without having obtained prior written approval in accordance with § 97.175.

(2) No owner or operator of a CAIR NO_X unit shall operate the unit so as to discharge, or allow to be discharged, NO_X emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(3) No owner or operator of a CAIR NO_X unit shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording NO_X mass emissions discharged

into the atmosphere or heat input, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(4) No owner or operator of a CAIR NO_X unit shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by an exemption under §97.105 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the Administrator for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The CAIR designated representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with §97.171(d)(3)(i).

(e) *Long-term cold storage.* The owner or operator of a CAIR NO_X unit is subject to the applicable provisions of part 75 of this chapter concerning units in long-term cold storage.

§97.171 Initial certification and recertification procedures.

(a) The owner or operator of a CAIR NO_X unit shall be exempt from the initial certification requirements of this section for a monitoring system under §97.170(a)(1) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with part 75 of this chapter; and

(2) The applicable quality-assurance and quality-control requirements of §75.21 of this chapter and appendix B, appendix D, and appendix E to part 75 of this chapter are fully met for the certified monitoring system described in paragraph (a)(1) of this section.

(b) The recertification provisions of this section shall apply to a monitoring system under §97.170(a)(1) exempt from initial certification requirements under paragraph (a) of this section.

(c) If the Administrator has previously approved a petition under §75.17(a) or (b) of this chapter for apportioning the NO_X emission rate measured in a common stack or a petition under §75.66 of this chapter for an alternative to a requirement in §75.12 or §75.17 of this chapter, the CAIR designated representative shall resubmit the petition to the Administrator under §97.175 to determine whether the approval applies under the CAIR NO_X Annual Trading Program.

(d) Except as provided in paragraph (a) of this section, the owner or operator of a CAIR NO_X unit shall comply with the following initial certification and recertification procedures for a continuous monitoring system (*i.e.*, a continuous emission monitoring system and an excepted monitoring system under appendices D and E to part 75 of this chapter) under §97.170(a)(1). The owner or operator of a unit that qualifies to use the low mass emissions excepted monitoring methodology under §75.19 of this chapter or that qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall comply with the procedures in paragraph (e) or (f) of this section respectively.

(1) *Requirements for initial certification.* The owner or operator shall ensure that each continuous monitoring system under §97.170(a)(1) (including the automated data acquisition and handling system) successfully completes all of the initial certification testing required under §75.20 of this chapter by the applicable deadline in §97.170(b). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this subpart in a location where no such monitoring system was previously installed, initial certification in accordance with §75.20 of this chapter is required.

(2) *Requirements for recertification.* Whenever the owner or operator makes a replacement, modification, or change in any certified continuous emission monitoring system under §97.170(a)(1)

that may significantly affect the ability of the system to accurately measure or record NO_X mass emissions or heat input rate or to meet the quality-assurance and quality-control requirements of § 75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the monitoring system in accordance with § 75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify each continuous emission monitoring system whose accuracy is potentially affected by the change, in accordance with § 75.20(b) of this chapter. Examples of changes to a continuous emission monitoring system that require recertification include replacement of the analyzer, complete replacement of an existing continuous emission monitoring system, or change in location or orientation of the sampling probe or site. Any fuel flowmeter system, and any excepted NO_X monitoring system under appendix E to part 75 of this chapter, under § 97.170(a)(1) are subject to the recertification requirements in § 75.20(g)(6) of this chapter.

(3) *Approval process for initial certification and recertification.* Paragraphs (d)(3)(i) through (iv) of this section apply to both initial certification and recertification of a continuous monitoring system under § 97.170(a)(1). For recertifications, replace the words ''certification'' and ''initial certification'' with the word ''recertification'', replace the word ''certified'' with the word ''recertified'', and follow the procedures in §§ 75.20(b)(5) and (g)(7) of this chapter in lieu of the procedures in paragraph (d)(3)(v) of this section.

(i) *Notification of certification.* The CAIR designated representative shall submit to the appropriate EPA Regional Office and the Administrator written notice of the dates of certification testing, in accordance with § 97.173.

(ii) *Certification application.* The CAIR designated representative shall submit to the Administrator a certification application for each monitoring system. A complete certification application shall include the information specified in § 75.63 of this chapter.

(iii) *Provisional certification date.* The provisional certification date for a monitoring system shall be determined in accordance with § 75.20(a)(3) of this chapter. A provisionally certified monitoring system may be used under the CAIR NO_X Annual Trading Program for a period not to exceed 120 days after receipt by the Administrator of the complete certification application for the monitoring system under paragraph (d)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the Administrator does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of the date of receipt of the complete certification application by the Administrator.

(iv) *Certification application approval process.* The Administrator will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under paragraph (d)(3)(ii) of this section. In the event the Administrator does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the CAIR NO_X Annual Trading Program.

(A) *Approval notice.* If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of part 75 of this chapter, then the Administrator will issue a written notice of approval of the certification application within 120 days of receipt.

(B) *Incomplete application notice.* If the certification application is not complete, then the Administrator will issue a written notice of incompleteness that sets a reasonable date by

which the CAIR designated representative must submit the additional information required to complete the certification application. If the CAIR designated representative does not comply with the notice of incompleteness by the specified date, then the Administrator may issue a notice of disapproval under paragraph (d)(3)(iv)(C) of this section. The 120-day review period shall not begin before receipt of a complete certification application.

(C) *Disapproval notice.* If the certification application shows that any monitoring system does not meet the performance requirements of part 75 of this chapter or if the certification application is incomplete and the requirement for disapproval under paragraph (d)(3)(iv)(B) of this section is met, then the Administrator will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the Administrator and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification (as defined under §75.20(a)(3) of this chapter). The owner or operator shall follow the procedures for loss of certification in paragraph (d)(3)(v) of this section for each monitoring system that is disapproved for initial certification.

(D) *Audit decertification.* The Administrator may issue a notice of disapproval of the certification status of a monitor in accordance with §97.172(b).

(v) *Procedures for loss of certification.* If the Administrator issues a notice of disapproval of a certification application under paragraph (d)(3)(iv)(C) of this section or a notice of disapproval of certification status under paragraph (d)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each disapproved monitoring system, for each hour of unit operation during the period of invalid data specified under §75.20(a)(4)(iii), §75.20(g)(7), or §75.21(e) of this chapter and continuing until the applicable date and hour specified under §75.20(a)(5)(i) or (g)(7) of this chapter:

(*1*) For a disapproved NO_X emission rate (*i.e.*,, NO_X-diluent) system, the maximum potential NO_X emission rate, as defined in §72.2 of this chapter.

(*2*) For a disapproved NO_X pollutant concentration monitor and disapproved flow monitor, respectively, the maximum potential concentration of NO_X and the maximum potential flow rate, as defined in sections 2.1.2.1 and 2.1.4.1 of appendix A to part 75 of this chapter.

(*3*) For a disapproved moisture monitoring system and disapproved diluent gas monitoring system, respectively, the minimum potential moisture percentage and either the maximum potential CO_2 concentration or the minimum potential O_2 concentration (as applicable), as defined in sections 2.1.5, 2.1.3.1, and 2.1.3.2 of appendix A to part 75 of this chapter.

(*4*) For a disapproved fuel flowmeter system, the maximum potential fuel flow rate, as defined in section 2.4.2.1 of appendix D to part 75 of this chapter.

(*5*) For a disapproved excepted NO_X monitoring system under appendix E to part 75 of this chapter, the fuel-specific maximum potential NO_X emission rate, as defined in §72.2 of this chapter.

(B) The CAIR designated representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (d)(3)(i) and (ii) of this section.

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the Administrator's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(e) *Initial certification and recertification procedures for units using the low mass emission excepted methodology under §75.19 of this chapter.* The owner or operator of a unit qualified to use the low mass emissions (LME) excepted methodology under §75.19 of this chapter shall meet the applicable certification and recertification requirements in §§75.19(a)(2) and 75.20(h) of this chapter. If the owner or operator of such a unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall

also meet the certification and recertification requirements in § 75.20(g) of this chapter.

(f) *Certification/recertification procedures for alternative monitoring systems.* The CAIR designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator under subpart E of part 75 of this chapter shall comply with the applicable notification and application procedures of § 75.20(f) of this chapter.

§ 97.172 Out of control periods.

(a) Whenever any monitoring system fails to meet the quality-assurance and quality-control requirements or data validation requirements of part 75 of this chapter, data shall be substituted using the applicable missing data procedures in subpart D or subpart H of, or appendix D or appendix E to, part 75 of this chapter.

(b) *Audit decertification.* Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under § 97.171 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the Administrator will issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the permitting authority or the Administrator. By issuing the notice of disapproval, the Administrator revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the applicable initial certification or recertification procedures in § 97.171 for each disapproved monitoring system.

§ 97.173 Notifications.

The CAIR designated representative for a CAIR NO_X unit shall submit written notice to the Administrator in accordance with § 75.61 of this chapter.

§ 97.174 Recordkeeping and reporting.

(a) *General provisions.* The CAIR designated representative shall comply with all recordkeeping and reporting requirements in this section, the applicable recordkeeping and reporting requirements under § 75.73 of this chapter, and the requirements of § 97.110(e)(1).

(b) *Monitoring plans.* The owner or operator of a CAIR NO_X unit shall comply with requirements of § 75.73(c) and (e) of this chapter and, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart II of this part, §§ 97.183 and 97.184(a).

(c) *Certification applications.* The CAIR designated representative shall submit an application to the Administrator within 45 days after completing all initial certification or recertification tests required under § 97.171, including the information required under § 75.63 of this chapter.

(d) *Quarterly reports.* The CAIR designated representative shall submit quarterly reports, as follows:

(1) The CAIR designated representative shall report the NO_X mass emissions data and heat input data for the CAIR NO_X unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(i) For a unit that commences commercial operation before July 1, 2007, the calendar quarter covering January 1, 2008 through March 31, 2008;

(ii) For a unit that commences commercial operation on or after July 1, 2007, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.170(b), unless that quarter is the third or fourth quarter of 2007, in which case reporting shall commence

in the quarter covering January 1, 2008 through March 31, 2008;

(iii) Notwithstanding paragraphs (d)(1)(i) and (ii) of this section, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart II of this part, the calendar quarter corresponding to the date specified in §97.184(b); and

(iv) Notwithstanding paragraphs (d)(1)(i) and (ii) of this section, for a CAIR NO_X opt-in unit under subpart II of this part, the calendar quarter corresponding to the date on which the CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program as provided in §97.184(g).

(2) The CAIR designated representative shall submit each quarterly report to the Administrator within 30 days following the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in §75.73(f) of this chapter.

(3) For CAIR NO_X units that are also subject to an Acid Rain emissions limitation or the CAIR NO_X Ozone Season Trading Program, CAIR SO_2 Trading Program, or Hg Budget Trading Program, quarterly reports shall include the applicable data and information required by subparts F through I of part 75 of this chapter as applicable, in addition to the NO_X mass emission data, heat input data, and other information required by this subpart.

(e) *Compliance certification.* The CAIR designated representative shall submit to the Administrator a compliance certification (in a format prescribed by the Administrator) in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(1) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications; and

(2) For a unit with add-on NO_X emission controls and for all hours where NO_X data are substituted in accordance with §75.34(a)(1) of this chapter, the add-on emission controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B to part 75 of this chapter and the substitute data values do not systematically underestimate NO_X emissions.

§97.175 Petitions.

The CAIR designated representative of a CAIR NO_X unit may submit a petition under §75.66 of this chapter to the Administrator requesting approval to apply an alternative to any requirement of this subpart. Application of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that the petition is approved in writing by the Administrator, in consultation with the permitting authority.

Subpart II—CAIR NO_X Opt-In Units

§97.180 Applicability.

A CAIR NO_X opt-in unit must be a unit that:

(a) Is located in a State that submits, and for which the Administrator approves, a State implementation plan revision in accordance with §51.123(p)(3)(i), (ii), or (iii) of this chapter establishing procedures concerning CAIR opt-in units;

(b) Is not a CAIR NO_X unit under §97.104 and is not covered by a retired unit exemption under §97.105 that is in effect;

(c) Is not covered by a retired unit exemption under §72.8 of this chapter that is in effect;

(d) Has or is required or qualified to have a title V operating permit or other federally enforceable permit; and

(e) Vents all of its emissions to a stack and can meet the monitoring, recordkeeping, and reporting requirements of subpart HH of this part.

§97.181 General.

(a) Except as otherwise provided in §§97.101 through 97.104, §§97.106 through 97.108, and subparts BB and CC and subparts FF through HH of this part, a CAIR NO_X opt-in unit shall be treated as a CAIR NO_X unit for purposes of applying such sections and subparts of this part.

(b) Solely for purposes of applying, as provided in this subpart, the requirements of subpart HH of this part to a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under this subpart, such unit shall be treated as a CAIR NO_X unit before issuance of a CAIR opt-in permit for such unit.

§ 97.182 CAIR designated representative.

Any CAIR NO_X opt-in unit, and any unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under this subpart, located at the same source as one or more CAIR NO_X units shall have the same CAIR designated representative and alternate CAIR designated representative as such CAIR NO_X units.

§ 97.183 Applying for CAIR opt-in permit.

(a) *Applying for initial CAIR opt-in permit.* The CAIR designated representative of a unit meeting the requirements for a CAIR NO_X opt-in unit in § 97.180 may apply for an initial CAIR opt-in permit at any time, except as provided under § 97.186(f) and (g), and, in order to apply, must submit the following:

(1) A complete CAIR permit application under § 97.122;

(2) A certification, in a format specified by the permitting authority, that the unit:

(i) Is not a CAIR NO_X unit under § 97.104 and is not covered by a retired unit exemption under § 97.105 that is in effect;

(ii) Is not covered by a retired unit exemption under § 72.8 of this chapter that is in effect;

(iii) Vents all of its emissions to a stack; and

(iv) Has documented heat input for more than 876 hours during the 6 months immediately preceding submission of the CAIR permit application under § 97.122;

(3) A monitoring plan in accordance with subpart HH of this part;

(4) A complete certificate of representation under § 97.113 consistent with § 97.182, if no CAIR designated representative has been previously designated for the source that includes the unit; and

(5) A statement, in a format specified by the permitting authority, whether the CAIR designated representative requests that the unit be allocated CAIR NO_X allowances under § 97.188(b) or § 97.188(c) (subject to the conditions in §§ 97.184(h) and 97.186(g)), to the extent such allocation is provided in a State implementation plan revision submitted in accordance with § 51.123(p)(3)(i), (ii), or (iii) of this chapter and approved by the Administrator. If allocation under § 97.188(c) is requested, this statement shall include a statement that the owners and operators of the unit intend to repower the unit before January 1, 2015 and that they will provide, upon request, documentation demonstrating such intent.

(b) *Duty to reapply.* (1) The CAIR designated representative of a CAIR NO_X opt-in unit shall submit a complete CAIR permit application under § 97.122 to renew the CAIR opt-in unit permit in accordance with the permitting authority's regulations for title V operating permits, or the permitting authority's regulations for other federally enforceable permits if applicable, addressing permit renewal.

(2) Unless the permitting authority issues a notification of acceptance of withdrawal of the CAIR NO_X opt-in unit from the CAIR NO_X Annual Trading Program in accordance with § 97.186 or the unit becomes a CAIR NO_X unit under § 97.104, the CAIR NO_X opt-in unit shall remain subject to the requirements for a CAIR NO_X opt-in unit, even if the CAIR designated representative for the CAIR NO_X opt-in unit fails to submit a CAIR permit application that is required for renewal of the CAIR opt-in permit under paragraph (b)(1) of this section.

§ 97.184 Opt-in process.

The permitting authority will issue or deny a CAIR opt-in permit for a unit for which an initial application for a CAIR opt-in permit under § 97.183 is submitted in accordance with the following, to the extent provided in a State implementation plan revision submitted in accordance with § 51.123(p)(3)(i), (ii), or (iii) of this chapter and approved by the Administrator:

(a) *Interim review of monitoring plan.* The permitting authority and the Administrator will determine, on an interim basis, the sufficiency of the monitoring plan accompanying the initial application for a CAIR opt-in permit under § 97.183. A monitoring plan is sufficient, for purposes of interim review, if the plan appears to contain information demonstrating that the NO_X emissions rate and heat input of the unit and all other applicable parameters are monitored and reported in accordance with subpart HH of this part. A determination of sufficiency shall not be construed as acceptance or approval of the monitoring plan.

(b) *Monitoring and reporting.* (1)(i) If the permitting authority and the Administrator determine that the monitoring plan is sufficient under paragraph (a) of this section, the owner or operator shall monitor and report the NO_X emissions rate and the heat input of the unit and all other applicable parameters, in accordance with subpart HH of this part, starting on the date of certification of the appropriate monitoring systems under subpart HH of this part and continuing until a CAIR opt-in permit is denied under § 97.184(f) or, if a CAIR opt-in permit is issued, the date and time when the unit is withdrawn from the CAIR NO_X Annual Trading Program in accordance with § 97.186.

(ii) The monitoring and reporting under paragraph (b)(1)(i) of this section shall include the entire control period immediately before the date on which the unit enters the CAIR NO_X Annual Trading Program under § 97.184(g), during which period monitoring system availability must not be less than 90 percent under subpart HH of this part and the unit must be in full compliance with any applicable State or Federal emissions or emissions-related requirements.

(2) To the extent the NO_X emissions rate and the heat input of the unit are monitored and reported in accordance with subpart HH of this part for one or more control periods, in addition to the control period under paragraph (b)(1)(ii) of this section, during which control periods monitoring system availability is not less than 90 percent under subpart HH of this part and the unit is in full compliance with any applicable State or Federal emissions or emissions-related requirements and which control periods begin not more than 3 years before the unit enters the CAIR NO_X Annual Trading Program under § 97.184(g), such information shall be used as provided in paragraphs (c) and (d) of this section.

(c) *Baseline heat input.* The unit's baseline heat input shall equal:

(1) If the unit's NO_X emissions rate and heat input are monitored and reported for only one control period, in accordance with paragraph (b)(1) of this section, the unit's total heat input (in mmBtu) for the control period; or

(2) If the unit's NO_X emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, the average of the amounts of the unit's total heat input (in mmBtu) for the control periods under paragraphs (b)(1)(ii) and (2) of this section.

(d) *Baseline* NO_X *emission rate.* The unit's baseline NO_X emission rate shall equal:

(1) If the unit's NO_X emissions rate and heat input are monitored and reported for only one control period, in accordance with paragraph (b)(1) of this section, the unit's NO_X emissions rate (in lb/mmBtu) for the control period;

(2) If the unit's NO_X emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, and the unit does not have add-on NO_X emission controls during any such control periods, the average of the amounts of the unit's NO_X emissions rate (in lb/mmBtu) for the control periods under paragraphs (b)(1)(ii) and (2) of this section; or

(3) If the unit's NO_X emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, and the unit has add-on NO_X emission controls during any such control periods, the average of the amounts of the unit's NO_X emissions rate (in lb/mmBtu) for such control periods during which the unit has add-on NO_X emission controls.

(e) *Issuance of CAIR opt-in permit.* After calculating the baseline heat input and the baseline NO_X emissions rate for the unit under paragraphs (c) and (d) of this section and if the permitting authority determines that the CAIR designated representative shows that the unit meets the requirements for a CAIR NO_X opt-in unit in § 97.180 and meets the elements certified in § 97.183(a)(2), the permitting authority will issue a CAIR opt-in permit. The permitting authority will provide a copy of the CAIR opt-in permit to the Administrator, who will then establish a compliance account for the source that includes the CAIR NO_X opt-in unit unless the source already has a compliance account.

(f) *Issuance of denial of CAIR opt-in permit.* Notwithstanding paragraphs (a) through (e) of this section, if at any time before issuance of a CAIR opt-in permit for the unit, the permitting authority determines that the CAIR designated representative fails to show that the unit meets the requirements for a CAIR NO_X opt-in unit in § 97.180 or meets the elements certified in § 97.183(a)(2), the permitting authority will issue a denial of a CAIR opt-in permit for the unit.

(g) *Date of entry into CAIR* NO_X *Annual Trading Program.* A unit for which an initial CAIR opt-in permit is issued by the permitting authority shall become a CAIR NO_X opt-in unit, and a CAIR NO_X unit, as of the later of January 1, 2009 or January 1 of the first control period during which such CAIR opt-in permit is issued.

(h) *Repowered CAIR* NO_X *opt-in unit.* (1) If CAIR designated representative requests, and the permitting authority issues a CAIR opt-in permit providing for, allocation to a CAIR NO_X opt-in unit of CAIR NO_X allowances under § 97.188(c) and such unit is repowered after its date of entry into the CAIR NO_X Annual Trading Program under paragraph (g) of this section, the repowered unit shall be treated as a CAIR NO_X opt-in unit replacing the original CAIR NO_X opt-in unit, as of the date of start-up of the repowered unit's combustion chamber.

(2) Notwithstanding paragraphs (c) and (d) of this section, as of the date of start-up under paragraph (h)(1) of this section, the repowered unit shall be deemed to have the same date of commencement of operation, date of commencement of commercial operation, baseline heat input, and baseline NO_X emission rate as the original CAIR NO_X opt-in unit, and the original CAIR NO_X opt-in unit shall no longer be treated as a CAIR NO_X opt-in unit or a CAIR NO_X unit.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006]

§ 97.185 CAIR opt-in permit contents.

(a) Each CAIR opt-in permit will contain:

(1) All elements required for a complete CAIR permit application under § 97.122;

(2) The certification in § 97.183(a)(2);

(3) The unit's baseline heat input under § 97.184(c);

(4) The unit's baseline NO_X emission rate under § 97.184(d);

(5) A statement whether the unit is to be allocated CAIR NO_X allowances under § 97.188(b) or § 97.188(c) (subject to the conditions in §§ 97.184(h) and 97.186(g));

(6) A statement that the unit may withdraw from the CAIR NO_X Annual Trading Program only in accordance with § 97.186; and

(7) A statement that the unit is subject to, and the owners and operators of the unit must comply with, the requirements of § 97.187.

(b) Each CAIR opt-in permit is deemed to incorporate automatically the definitions of terms under § 97.102 and, upon recordation by the Administrator under subpart FF or GG of this part or this subpart, every allocation, transfer, or deduction of CAIR NO_X allowances to or from the compliance account of the source that includes a CAIR NO_X opt-in unit covered by the CAIR opt-in permit.

(c) The CAIR opt-in permit shall be included, in a format specified by the permitting authority, in the CAIR permit for the source where the CAIR NO_X opt-in unit is located and in a title V operating permit or other federally enforceable permit for the source.

§ 97.186 Withdrawal from CAIR NO_X Annual Trading Program.

Except as provided under paragraph (g) of this section, a CAIR NO_X opt-in unit may withdraw from the CAIR NO_X Annual Trading Program, but only if the permitting authority issues a notification to the CAIR designated representative of the CAIR NO_X opt-in unit of the acceptance of the withdrawal of the CAIR NO_X opt-in unit in accordance with paragraph (d) of this section.

(a) *Requesting withdrawal.* In order to withdraw a CAIR NO_X opt-in unit from the CAIR NO_X Annual Trading Program, the CAIR designated representative of the CAIR NO_X opt-in unit shall submit to the permitting authority a request to withdraw effective as of midnight of December 31 of a specified calendar year, which date must be at least 4 years after December 31 of the year of entry into the CAIR NO_X Annual Trading Program under § 97.184(g). The request must be submitted no later than 90 days before the requested effective date of withdrawal.

(b) *Conditions for withdrawal.* Before a CAIR NO_X opt-in unit covered by a request under paragraph (a) of this section may withdraw from the CAIR NO_X Annual Trading Program and the CAIR opt-in permit may be terminated under paragraph (e) of this section, the following conditions must be met:

(1) For the control period ending on the date on which the withdrawal is to be effective, the source that includes the CAIR NO_X opt-in unit must meet the requirement to hold CAIR NO_X allowances under § 97.106(c) and cannot have any excess emissions.

(2) After the requirement for withdrawal under paragraph (b)(1) of this section is met, the Administrator will deduct from the compliance account of the source that includes the CAIR NO_X opt-in unit CAIR NO_X allowances equal in amount to and allocated for the same or a prior control period as any CAIR NO_X allowances allocated to the CAIR NO_X opt-in unit under § 97.188 for any control period for which the withdrawal is to be effective. If there are no remaining CAIR NO_X units at the source, the Administrator will close the compliance account, and the owners and operators of the CAIR NO_X opt-in unit may submit a CAIR NO_X allowance transfer for any remaining CAIR NO_X allowances to another CAIR NO_X Allowance Tracking System in accordance with subpart GG of this part.

(c) *Notification.* (1) After the requirements for withdrawal under paragraphs (a) and (b) of this section are met (including deduction of the full amount of CAIR NO_X allowances required), the permitting authority will issue a notification to the CAIR designated representative of the CAIR NO_X opt-in unit of the acceptance of the withdrawal of the CAIR NO_X opt-in unit as of midnight on December 31 of the calendar year for which the withdrawal was requested.

(2) If the requirements for withdrawal under paragraphs (a) and (b) of this section are not met, the permitting authority will issue a notification to the CAIR designated representative of the CAIR NO_X opt-in unit that the CAIR NO_X opt-in unit's request to withdraw is denied. Such CAIR NO_X opt-in unit shall continue to be a CAIR NO_X opt-in unit.

(d) *Permit amendment.* After the permitting authority issues a notification under paragraph (c)(1) of this section that the requirements for withdrawal have been met, the permitting authority will revise the CAIR permit covering the CAIR NO_X opt-in unit to terminate the CAIR opt-in permit for such unit as of the effective date specified under paragraph (c)(1) of this section. The unit shall continue to be a CAIR NO_X opt-in unit until the effective date of the termination and shall comply with all requirements under the CAIR NO_X Annual Trading Program concerning any control periods for which the unit is a CAIR NO_X opt-in unit, even if such requirements arise or must be complied with after the withdrawal takes effect.

(e) *Reapplication upon failure to meet conditions of withdrawal.* If the permitting authority denies the CAIR NO_X opt-in unit's request to withdraw, the CAIR designated representative may submit another request to withdraw in accordance with paragraphs (a) and (b) of this section.

(f) *Ability to reapply to the CAIR NO_X Annual Trading Program.* Once a CAIR NO_X opt-in unit withdraws from the

CAIR NO_X Annual Trading Program and its CAIR opt-in permit is terminated under this section, the CAIR designated representative may not submit another application for a CAIR opt-in permit under § 97.183 for such CAIR NO_X opt-in unit before the date that is 4 years after the date on which the withdrawal became effective. Such new application for a CAIR opt-in permit will be treated as an initial application for a CAIR opt-in permit under § 97.184.

(g) *Inability to withdraw*. Notwithstanding paragraphs (a) through (f) of this section, a CAIR NO_X opt-in unit shall not be eligible to withdraw from the CAIR NO_X Annual Trading Program if the CAIR designated representative of the CAIR NO_X opt-in unit requests, and the permitting authority issues a CAIR NO_X opt-in permit providing for, allocation to the CAIR NO_X opt-in unit of CAIR NO_X allowances under § 97.188(c).

§ 97.187 Change in regulatory status.

(a) *Notification*. If a CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 97.104, then the CAIR designated representative shall notify in writing the permitting authority and the Administrator of such change in the CAIR NO_X opt-in unit's regulatory status, within 30 days of such change.

(b) *Permitting authority's and Administrator's actions*. (1) If a CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 97.104, the permitting authority will revise the CAIR NO_X opt-in unit's CAIR opt-in permit to meet the requirements of a CAIR permit under § 97.123, and remove the CAIR opt-in permit provisions, as of the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 97.104.

(2)(i) The Administrator will deduct from the compliance account of the source that includes the CAIR NO_X opt-in unit that becomes a CAIR NO_X unit under § 97.104, CAIR NO_X allowances equal in amount to and allocated for the same or a prior control period as:

(A) Any CAIR NO_X allowances allocated to the CAIR NO_X opt-in unit under § 97.188 for any control period after the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 97.104; and

(B) If the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 97.104 is not December 31, the CAIR NO_X allowances allocated to the CAIR NO_X opt-in unit under § 97.188 for the control period that includes the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 97.104, multiplied by the ratio of the number of days, in the control period, starting with the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 97.104 divided by the total number of days in the control period and rounded to the nearest whole allowance as appropriate.

(ii) The CAIR designated representative shall ensure that the compliance account of the source that includes the CAIR NO_X opt-in unit that becomes a CAIR NO_X unit under § 97.104 contains the CAIR NO_X allowances necessary for completion of the deduction under paragraph (b)(2)(i) of this section.

(3)(i) For every control period after the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 97.104, the CAIR NO_X opt-in unit will be allocated CAIR NO_X allowances under § 97.142.

(ii) If the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 97.104 is not December 31, the following amount of CAIR NO_X allowances will be allocated to the CAIR NO_X opt-in unit (as a CAIR NO_X unit) under (97.142 for the control period that includes the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 97.104:

(A) The amount of CAIR NO_X allowances otherwise allocated to the CAIR NO_X opt-in unit (as a CAIR NO_X unit) under § 97.142 for the control period multiplied by;

(B) The ratio of the number of days, in the control period, starting with the date on which the CAIR NO_X opt-in unit becomes a CAIR NO_X unit under § 97.104, divided by the total number of days in the control period; and

(C) Rounded to the nearest whole allowance as appropriate.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006]

§ 97.188 CAIR NO_X allowance allocations to CAIR NO_X opt-in units.

(a) *Timing requirements.* (1) When the CAIR opt-in permit is issued under § 97.184(e), the permitting authority will allocate CAIR NO_X allowances to the CAIR NO_X opt-in unit, and submit to the Administrator the allocation for the control period in which a CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program under § 97.184(g), in accordance with paragraph (b) or (c) of this section.

(2) By no later than October 31 of the control period after the control period in which a CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program under § 97.184(g) and October 31 of each year thereafter, the permitting authority will allocate CAIR NO_X allowances to the CAIR NO_X opt-in unit, and submit to the Administrator the allocation for the control period that includes such submission deadline and in which the unit is a CAIR NO_X opt-in unit, in accordance with paragraph (b) or (c) of this section.

(b) *Calculation of allocation.* For each control period for which a CAIR NO_X opt-in unit is to be allocated CAIR NO_X allowances, the permitting authority will allocate in accordance with the following procedures, if provided in a State implementation plan revision submitted in accordance with § 51.123(p)(3)(i), (ii), or (iii) of this chapter and approved by the Administrator:

(1) The heat input (in mmBtu) used for calculating the CAIR NO_X allowance allocation will be the lesser of:

(i) The CAIR NO_X opt-in unit's baseline heat input determined under § 97.184(c); or

(ii) The CAIR NO_X opt-in unit's heat input, as determined in accordance with subpart HH of this part, for the immediately prior control period, except when the allocation is being calculated for the control period in which the CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program under § 97.184(g).

(2) The NO_X emission rate (in lb/mmBtu) used for calculating CAIR NO_X allowance allocations will be the lesser of:

(i) The CAIR NO_X opt-in unit's baseline NO_X emissions rate (in lb/mmBtu) determined under § 97.184(d) and multiplied by 70 percent; or

(ii) The most stringent State or Federal NO_X emissions limitation applicable to the CAIR NO_X opt-in unit at any time during the control period for which CAIR NO_X allowances are to be allocated.

(3) The permitting authority will allocate CAIR NO_X allowances to the CAIR NO_X opt-in unit in an amount equaling the heat input under paragraph (b)(1) of this section, multiplied by the NO_X emission rate under paragraph (b)(2) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole allowance as appropriate.

(c) Notwithstanding paragraph (b) of this section and if the CAIR designated representative requests, and the permitting authority issues a CAIR opt-in permit (based on a demonstration of the intent to repower stated under § 97.183(a)(5)) providing for, allocation to a CAIR NO_X opt-in unit of CAIR NO_X allowances under this paragraph (subject to the conditions in §§ 97.184(h) and 97.186(g)), the permitting authority will allocate to the CAIR NO_X opt-in unit as follows, if provided in a State implementation plan revision submitted in accordance with (51.123(p)(3)(i), (ii), or (iii) of this chapter and approved by the Administrator:

(1) For each control period in 2009 through 2014 for which the CAIR NO_X opt-in unit is to be allocated CAIR NO_X allowances,

(i) The heat input (in mmBtu) used for calculating CAIR NO_X allowance allocations will be determined as described in paragraph (b)(1) of this section.

(ii) The NO_X emission rate (in lb/mmBtu) used for calculating CAIR NO_X allowance allocations will be the lesser of:

(A) The CAIR NO_X opt-in unit's baseline NO_X emissions rate (in lb/mmBtu) determined under § 97.184(d); or

(B) The most stringent State or Federal NO_X emissions limitation applicable to the CAIR NO_X opt-in unit at any time during the control period in which the CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program under § 97.184(g).

(iii) The permitting authority will allocate CAIR NO_X allowances to the

CAIR NO_X opt-in unit in an amount equaling the heat input under paragraph (c)(1)(i) of this section, multiplied by the NO_X emission rate under paragraph (c)(1)(ii) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole allowance as appropriate.

(2) For each control period in 2015 and thereafter for which the CAIR NO_X opt-in unit is to be allocated CAIR NO_X allowances,

(i) The heat input (in mmBtu) used for calculating the CAIR NO_X allowance allocations will be determined as described in paragraph (b)(1) of this section.

(ii) The NO_X emission rate (in lb/mmBtu) used for calculating the CAIR NO_X allowance allocation will be the lesser of:

(A) 0.15 lb/mmBtu;

(B) The CAIR NO_X opt-in unit's baseline NO_X emissions rate (in lb/mmBtu) determined under §97.184(d); or

(C) The most stringent State or Federal NO_X emissions limitation applicable to the CAIR NO_X opt-in unit at any time during the control period for which CAIR NO_X allowances are to be allocated.

(iii) The permitting authority will allocate CAIR NO_X allowances to the CAIR NO_X opt-in unit in an amount equaling the heat input under paragraph (c)(2)(i) of this section, multiplied by the NO_X emission rate under paragraph (c)(2)(ii) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole allowance as appropriate.

(d) *Recordation*. If provided in a State implementation plan revision submitted in accordance with §51.123(p)(3)(i), (ii), or (iii) of this chapter and approved by the Administrator:

(1) The Administrator will record, in the compliance account of the source that includes the CAIR NO_X opt-in unit, the CAIR NO_X allowances allocated by the permitting authority to the CAIR NO_X opt-in unit under paragraph (a)(1) of this section.

(2) By December 1 of the control period in which a CAIR NO_X opt-in unit enters the CAIR NO_X Annual Trading Program under §97.184(g) and December 1 of each year thereafter, the Administrator will record, in the compliance account of the source that includes the CAIR NO_X opt-in unit, the CAIR NO_X allowances allocated by the permitting authority to the CAIR NO_X opt-in unit under paragraph (a)(2) of this section.

APPENDIX A TO SUBPART II OF PART 97—STATES WITH APPROVED STATE IMPLEMENTATION PLAN REVISIONS CONCERNING CAIR NO_X OPT-IN UNITS

1. The following States have State Implementation Plan revisions under §51.123(p)(3) of this chapter approved by the Administrator and establishing procedures providing for CAIR NO_X opt-in units under subpart II of this part and allocation of CAIR NO_X allowances to such units under §97.188(b):

Indiana
Michigan
North Carolina
Ohio
South Carolina
Tennessee

2. The following States have State Implementation Plan revisions under §51.123(p)(3) of this chapter approved by the Administrator and establishing procedures providing for CAIR NO_X opt-in units under subpart II of this part and allocation of CAIR NO_X allowances to such units under §97.188(c):

Indiana
Michigan
Ohio
North Carolina
South Carolina
Tennessee

[65 FR 2727, Jan. 18, 2000, as amended at 72 FR 46394, Aug. 20, 2007; 72 FR 56920, Oct. 5, 2007; 72 FR 57215, Oct. 9, 2007; 72 FR 59487, Oct. 22, 2007; 72 FR 72262, Dec. 20, 2007; 73 FR 6040, Feb. 1, 2008]

Subpart AAA—CAIR SO_2 Trading Program General Provisions

§97.201 Purpose.

This subpart and subparts BBB through III set forth the general provisions and the designated representative, permitting, allowance, monitoring, and opt-in provisions for the Federal Clean Air Interstate Rule (CAIR) SO_2 Trading Program, under section 110 of the Clean Air Act and §52.36 of this chapter, as a means of mitigating interstate transport of fine particulates and sulfur dioxide.

§97.202 Definitions.

The terms used in this subpart and subparts BBB through III shall have

the meanings set forth in this section as follows:

Account number means the identification number given by the Administrator to each CAIR SO_2 Allowance Tracking System account.

Acid Rain emissions limitation means a limitation on emissions of sulfur dioxide or nitrogen oxides under the Acid Rain Program.

Acid Rain Program means a multistate sulfur dioxide and nitrogen oxides air pollution control and emission reduction program established by the Administrator under title IV of the CAA and parts 72 through 78 of this chapter.

Administrator means the Administrator of the United States Environmental Protection Agency or the Administrator's duly authorized representative.

Allocate or *allocation* means, with regard to CAIR SO_2 allowances issued under the Acid Rain Program, the determination by the Administrator of the amount of such CAIR SO_2 allowances to be initially credited to a CAIR SO_2 unit or other entity and, with regard to CAIR SO_2 allowances issued under § 97.288 or provisions of a State implementation plan that are approved under § 51.124(o)(1) or (2) or (r) of this chapter, the determination by a permitting authority of the amount of such CAIR SO_2 allowances to be initially credited to a CAIR SO_2 unit or other entity.

Allowance transfer deadline means, for a control period, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately following the control period and is the deadline by which a CAIR SO_2 allowance transfer must be submitted for recordation in a CAIR SO_2 source's compliance account in order to be used to meet the source's CAIR SO_2 emissions limitation for such control period in accordance with § 97.254.

Alternate CAIR designated representative means, for a CAIR SO_2 source and each CAIR SO_2 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with subparts BBB and III of this part, to act on behalf of the CAIR designated representative in matters pertaining to the CAIR SO_2 Trading Program. If the CAIR SO_2 source is also a CAIR NO_X source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR NO_X Annual Trading Program. If the CAIR SO_2 source is also a CAIR NO_X Ozone Season source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR NO_X Ozone Season Trading Program. If the CAIR SO_2 source is also subject to the Acid Rain Program, then this natural person shall be the same person as the alternate designated representative under the Acid Rain Program. If the CAIR SO_2 source is also subject to the Hg Budget Trading Program, then this natural person shall be the same person as the alternate Hg designated representative under the Hg Budget Trading Program.

Automated data acquisition and handling system or *DAHS* means that component of the continuous emission monitoring system, or other emissions monitoring system approved for use under subpart HHH of this part, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by subpart HHH of this part.

Biomass means—

(1) Any organic material grown for the purpose of being converted to energy;

(2) Any organic byproduct of agriculture that can be converted into energy; or

(3) Any material that can be converted into energy and is nonmerchantable for other purposes, that is segregated from other nonmerchantable material, and that is;

(i) A forest-related organic resource, including mill residues, precommercial thinnings, slash, brush, or byproduct from conversion of trees to merchantable material; or

(ii) A wood material, including pallets, crates, dunnage, manufacturing and construction materials (other than

pressure-treated, chemically-treated, or painted wood products), and landscape or right-of-way tree trimmings.

Boiler means an enclosed fossil- or other-fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

Bottoming-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful thermal energy and at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

CAIR authorized account representative means, with regard to a general account, a responsible natural person who is authorized, in accordance with subparts BBB, FFF, and III of this part, to transfer and otherwise dispose of CAIR SO_2 allowances held in the general account and, with regard to a compliance account, the CAIR designated representative of the source.

CAIR designated representative means, for a CAIR SO_2 source and each CAIR SO_2 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with subparts BBB and III of this part, to represent and legally bind each owner and operator in matters pertaining to the CAIR SO_2 Trading Program. If the CAIR SO_2 source is also a CAIR NO_X source, then this natural person shall be the same person as the CAIR designated representative under the CAIR NO_X Annual Trading Program. If the CAIR SO_2 source is also a CAIR NO_X Ozone Season source, then this natural person shall be the same person as the CAIR designated representative under the CAIR NO_X Ozone Season Trading Program. If the CAIR SO_2 source is also subject to the Acid Rain Program, then this natural person shall be the same person as the designated representative under the Acid Rain Program. If the CAIR SO_2 source is also subject to the Hg Budget Trading Program, then this natural person shall be the same person as the Hg designated representative under the Hg Budget Trading Program.

CAIR NO_X Annual Trading Program means a multi-state nitrogen oxides air pollution control and emission reduction program established by the Administrator in accordance with subparts AA through II of this part and § 51.123(p) and 52.35 of this chapter or approved and administered by the Administrator in accordance with subparts AA through II of part 96 of this chapter and § 51.123(o)(1) or (2) of this chapter, as a means of mitigating interstate transport of fine particulates and nitrogen oxides.

CAIR NO_X Ozone Season source means a source that is subject to the CAIR NO_X Ozone Season Trading Program.

CAIR NO_X Ozone Season Trading Program means a multi-state nitrogen oxides air pollution control and emission reduction program established by the Administrator in accordance with subparts AAAA through IIII of this part and § 51.123(ee) and 52.35 of this chapter or approved and administered by the Administrator in accordance with subparts AAAA through IIII of part 96 and § 51.123(aa)(1) or (2) (and (bb)(1)), (bb)(2), or (dd) of this chapter, as a means of mitigating interstate transport of ozone and nitrogen oxides.

CAIR NO_X source means a source that is subject to the CAIR NO_X Annual Trading Program.

CAIR permit means the legally binding and federally enforceable written document, or portion of such document, issued by the permitting authority under subpart CCC of this part, including any permit revisions, specifying the CAIR SO_2 Trading Program requirements applicable to a CAIR SO_2 source, to each CAIR SO_2 unit at the source, and to the owners and operators and the CAIR designated representative of the source and each such unit.

CAIR SO_2 allowance means a limited authorization issued by the Administrator under the Acid Rain Program, by a permitting authority under § 97.288, or by a permitting authority under provisions of a State implementation plan that are approved under § 51.124(o)(1) or (2) or (r) of this chapter, to emit sulfur dioxide during the control period of the specified calendar year for which the authorization is allocated or of any calendar year thereafter under the CAIR SO_2 Trading Program as follows:

(1) For one CAIR SO_2 allowance allocated for a control period in a year before 2010, one ton of sulfur dioxide, except as provided in § 97.254(b);

(2) For one CAIR SO_2 allowance allocated for a control period in 2010 through 2014, 0.50 ton of sulfur dioxide, except as provided in § 97.254(b); and

(3) For one CAIR SO_2 allowance allocated for a control period in 2015 or later, 0.35 ton of sulfur dioxide, except as provided in § 97.254(b).

(4) An authorization to emit sulfur dioxide that is not issued under the Acid Rain Program, § 97.288, or provisions of a State implementation plan that are approved under § 51.124(o)(1) or (2) or (r) of this chapter shall not be a CAIR SO_2 allowance.

CAIR SO_2 allowance deduction or *deduct CAIR SO_2 allowances* means the permanent withdrawal of CAIR SO_2 allowances by the Administrator from a compliance account, *e.g.*, in order to account for a specified number of tons of total sulfur dioxide emissions from all CAIR SO_2 units at a CAIR SO_2 source for a control period, determined in accordance with subpart HHH of this part, or to account for excess emissions.

CAIR SO_2 Allowance Tracking System means the system by which the Administrator records allocations, deductions, and transfers of CAIR SO_2 allowances under the CAIR SO_2 Trading Program. This is the same system as the Allowance Tracking System under § 72.2 of this chapter by which the Administrator records allocations, deduction, and transfers of Acid Rain SO_2 allowances under the Acid Rain Program.

CAIR SO_2 Allowance Tracking System account means an account in the CAIR SO_2 Allowance Tracking System established by the Administrator for purposes of recording the allocation, holding, transferring, or deducting of CAIR SO_2 allowances. Such allowances will be allocated, held, deducted, or transferred only as whole allowances.

CAIR SO_2 allowances held or *hold CAIR SO_2 allowances* means the CAIR SO_2 allowances recorded by the Administrator, or submitted to the Administrator for recordation, in accordance with subparts FFF, GGG, and III of this part or part 73 of this chapter, in a CAIR SO_2 Allowance Tracking System account.

CAIR SO_2 emissions limitation means, for a CAIR SO_2 source, the tonnage equivalent, in SO_2 emissions in a control period, of the CAIR SO_2 allowances available for deduction for the source under § 97.254(a) and (b) for the control period.

CAIR SO_2 source means a source that includes one or more CAIR SO_2 units.

CAIR SO_2 Trading Program means a multi-state sulfur dioxide air pollution control and emission reduction program established by the Administrator in accordance with subparts AAA through III of this part and §§ 51.124(r) and 52.36 of this chapter or approved and administered by the Administrator in accordance with subparts AAA through III of part 96 of this chapter and § 51.124(o) (1) or (2) of this chapter, as a means of mitigating interstate transport of fine particulates and sulfur dioxide.

CAIR SO_2 unit means a unit that is subject to the CAIR SO_2 Trading Program under § 97.204 and, except for purposes of § 97.205, a CAIR SO_2 opt-in unit under subpart III of this part.

Certifying official means:

(1) For a corporation, a president, secretary, treasurer, or vice-president or the corporation in charge of a principal business function or any other person who performs similar policy or decision-making functions for the corporation;

(2) For a partnership or sole proprietorship, a general partner or the proprietor respectively; or

(3) For a local government entity or State, Federal, or other public agency, a principal executive officer or ranking elected official.

Clean Air Act or *CAA* means the Clean Air Act, 42 U.S.C. 7401, *et seq.*

Coal means any solid fuel classified as anthracite, bituminous, subbituminous, or lignite.

Coal-derived fuel means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal, or chemical processing of coal.

Coal-fired means combusting any amount of coal or coal-derived fuel, alone, or in combination with any amount of any other fuel.

Cogeneration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine:

(1) Having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and

(2) Producing during the 12-month period starting on the date the unit first produces electricity and during any calendar year after the calendar year in which the unit first produces electricity—

(i) For a topping-cycle cogeneration unit,

(A) Useful thermal energy not less than 5 percent of total energy output; and

(B) Useful power that, when added to one-half of useful thermal energy produced, is not less then 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output.

(ii) For a bottoming-cycle cogeneration unit, useful power not less than 45 percent of total energy input;

(3) Provided that the total energy input under paragraphs (2)(i)(B) and (2)(ii) of this definition shall equal the unit's total energy input from all fuel except biomass if the unit is a boiler.

Combustion turbine means:

(1) An enclosed device comprising a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and

(2) If the enclosed device under paragraph (1) of this definition is combined cycle, any associated duct burner, heat recovery steam generator, and steam turbine.

Commence commercial operation means, with regard to a unit:

(1) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in § 97.205 and § 97.284(h).

(i) For a unit that is a CAIR SO_2 unit under § 97.204 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a CAIR SO_2 unit under § 97.204 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

(2) Notwithstanding paragraph (1) of this definition and except as provided in § 97.205, for a unit that is not a CAIR SO_2 unit under § 97.204 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a CAIR SO_2 unit under § 97.204.

(i) For a unit with a date for commencement of commercial operation as defined in paragraph (2) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in paragraph (2) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

Commence operation means:

(1) To have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber, except as provided in § 97.284(h).

(2) For a unit that undergoes a physical change (other than replacement of the unit by a unit at the same source) after the date the unit commences operation as defined in paragraph (1) of this definition, such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit.

(3) For a unit that is replaced by a unit at the same source (*e.g.*, repowered) after the date the unit commences operation as defined in paragraph (1) of this definition, such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in paragraph (1), (2), or (3) of this definition as appropriate, except as provided in § 97.284(h).

Common stack means a single flue through which emissions from 2 or more units are exhausted.

Compliance account means a CAIR SO_2 Allowance Tracking System account, established by the Administrator for a CAIR SO_2 source subject to an Acid Rain emissions limitations under § 73.31(a) or (b) of this chapter or for any other CAIR SO_2 source under subpart FFF or III of this part, in which any CAIR SO_2 allowance allocations for the CAIR SO_2 units at the source are initially recorded and in which are held any CAIR SO_2 allowances available for use for a control period in order to meet the source's CAIR SO_2 emissions limitation in accordance with § 97.254.

Continuous emission monitoring system or *CEMS* means the equipment required under subpart HHH of this part to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes (using an automated data acquisition and handling system (DAHS)), a permanent record of sulfur dioxide emissions, stack gas volumetric flow rate, stack gas moisture content, and oxygen or carbon dioxide concentration (as applicable), in a manner consistent with part 75 of this chapter. The following systems are the principal types of continuous emission monitoring systems required under subpart HHH of this part:

(1) A flow monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);

(2) A sulfur dioxide monitoring system, consisting of a SO_2 pollutant concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of SO_2 emissions, in parts per million (ppm);

(3) A moisture monitoring system, as defined in § 75.11(b)(2) of this chapter and providing a permanent, continuous record of the stack gas moisture content, in percent H_2O;

(4) A carbon dioxide monitoring system, consisting of a CO_2 pollutant concentration monitor (or an oxygen monitor plus suitable mathematical equations from which the CO_2 concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of CO_2 emissions, in percent CO_2; and

(5) An oxygen monitoring system, consisting of an O_2 concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O_2 in percent O_2.

Control period means the period beginning January 1 of a calendar year, except as provided in § 97.206(c)(2), and ending on December 31 of the same year, inclusive.

Emissions means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the CAIR designated representative and as determined by the Administrator in accordance with subpart HHH of this part.

Excess emissions means any ton, or portion of a ton, of sulfur dioxide emitted by the CAIR SO_2 units at a CAIR SO_2 source during a control period that exceeds the CAIR SO_2 emissions limitation for the source, provided that any portion of a ton of excess emissions

shall be treated as one ton of excess emissions.

Fossil fuel means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.

Fossil-fuel-fired means, with regard to a unit, combusting any amount of fossil fuel in any calendar year.

General account means a CAIR SO_2 Allowance Tracking System account, established under subpart FFF of this part, that is not a compliance account.

Generator means a device that produces electricity.

Heat input means, with regard to a specified period of time, the product (in mmBtu/time) of the gross calorific value of the fuel (in Btu/lb) divided by 1,000,000 Btu/mmBtu and multiplied by the fuel feed rate into a combustion device (in lb of fuel/time), as measured, recorded, and reported to the Administrator by the CAIR designated representative and determined by the Administrator in accordance with subpart HHH of this part and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.

Heat input rate means the amount of heat input (in mmBtu) divided by unit operating time (in hr) or, with regard to a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Hg Budget Trading Program means a multi-state Hg air pollution control and emission reduction program approved and administered by the Administrator in accordance subpart HHHH of part 60 of this chapter and § 60.24(h)(6), or established by the Administrator under section 111 of the Clean Air Act, as a means of reducing national Hg emissions.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period no less than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input means the maximum amount of fuel per hour (in Btu/hr) that a unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.

Monitoring system means any monitoring system that meets the requirements of subpart HHH of this part, including a continuous emissions monitoring system, an alternative monitoring system, or an excepted monitoring system under part 75 of this chapter.

Most stringent State or Federal SO^2 emissions limitation means, with regard to a unit, the lowest SO_2 emissions limitation (in terms of lb/mmBtu) that is applicable to the unit under State or Federal law, regardless of the averaging period to which the emissions limitation applies.

Nameplate capacity means, starting from the initial installation of a generator, the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings), such increased maximum amount as of such completion as specified by the person conducting the physical change.

Operator means any person who operates, controls, or supervises a CAIR

SO_2 unit or a CAIR SO_2 source and shall include, but not be limited to, any holding company, utility system, or plant manager of such a unit or source.

Owner means any of the following persons:

(1) With regard to a CAIR SO_2 source or a CAIR SO_2 unit at a source, respectively:

(i) Any holder of any portion of the legal or equitable title in a CAIR SO_2 unit at the source or the CAIR SO_2 unit;

(ii) Any holder of a leasehold interest in a CAIR SO_2 unit at the source or the CAIR SO_2 unit; or

(iii) Any purchaser of power from a CAIR SO_2 unit at the source or the CAIR SO_2 unit under a life-of-the-unit, firm power contractual arrangement; provided that, unless expressly provided for in a leasehold agreement, owner shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based (either directly or indirectly) on the revenues or income from such CAIR SO_2 unit; or

(2) With regard to any general account, any person who has an ownership interest with respect to the CAIR SO_2 allowances held in the general account and who is subject to the binding agreement for the CAIR authorized account representative to represent the person's ownership interest with respect to CAIR SO_2 allowances.

Permitting authority means the State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to issue or revise permits to meet the requirements of the CAIR SO_2 Trading Program or, if no such agency has been so authorized, the Administrator.

Potential electrical output capacity means 33 percent of a unit's maximum design heat input, divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

Receive or receipt of means, when referring to the permitting authority or the Administrator, to come into possession of a document, information, or correspondence (whether sent in hard copy or by authorized electronic transmission), as indicated in an official log, or by a notation made on the document, information, or correspondence, by the permitting authority or the Administrator in the regular course of business.

Recordation, *record*, or *recorded* means, with regard to CAIR SO_2 allowances, the movement of CAIR SO_2 allowances by the Administrator into or between CAIR SO_2 Allowance Tracking System accounts, for purposes of allocation, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in § 75.22 of this chapter.

Replacement, *replace*, or *replaced* means, with regard to a unit, the demolishing of a unit, or the permanent shutdown and permanent disabling of a unit, and the construction of another unit (the replacement unit) to be used instead of the demolished or shutdown unit (the replaced unit).

Repowered means, with regard to a unit, replacement of a coal-fired boiler with one of the following coal-fired technologies at the same source as the coal-fired boiler:

(1) Atmospheric or pressurized fluidized bed combustion;

(2) Integrated gasification combined cycle;

(3) Magnetohydrodynamics;

(4) Direct and indirect coal-fired turbines;

(5) Integrated gasification fuel cells; or

(6) As determined by the Administrator in consultation with the Secretary of Energy, a derivative of one or more of the technologies under paragraphs (1) through (5) of this definition and any other coal-fired technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of January 1, 2005.

Sequential use of energy means:

(1) For a topping-cycle cogeneration unit, the use of reject heat from electricity production in a useful thermal energy application or process; or

(2) For a bottoming-cycle cogeneration unit, the use of reject heat from

useful thermal energy application or process in electricity production.

Serial number means, for a CAIR SO_2 allowance, the unique identification number assigned to each CAIR SO_2 allowance by the Administrator.

Solid waste incineration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a ''solid waste incineration unit'' as defined in section 129(g)(1) of the Clean Air Act.

Source means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons. For purposes of section 502(c) of the Clean Air Act, a ''source,'' including a ''source'' with multiple units, shall be considered a single ''facility.''

State means one of the States or the District of Columbia that is subject to the CAIR SO_2 Trading Program pursuant to § 52.35 of this chapter.

Submit or serve means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery. Compliance with any ''submission'' or ''service'' deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Title V operating permit means a permit issued under title V of the Clean Air Act and part 70 or part 71 of this chapter.

Title V operating permit regulations means the regulations that the Administrator has approved or issued as meeting the requirements of title V of the Clean Air Act and part 70 or 71 of this chapter.

Ton means 2,000 pounds. For the purpose of determining compliance with the CAIR SO_2 emissions limitation, total tons of sulfur dioxide emissions for a control period shall be calculated as the sum of all recorded hourly emissions (or the mass equivalent of the recorded hourly emission rates) in accordance with subpart HHH of this part, but with any remaining fraction of a ton equal to or greater than 0.50 tons deemed to equal one ton and any remaining fraction of a ton less than 0.50 tons deemed to equal zero tons.

Topping-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful power, including electricity, and at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

Total energy input means, with regard to a cogeneration unit, total energy of all forms supplied to the cogeneration unit, excluding energy produced by the cogeneration unit itself. Each form of energy supplied shall be measured by the lower heating value of that form of energy calculated as follows:

$$LHV = HHV - 10.55(W + 9H)$$

Where:

LHV = lower heating value of fuel in Btu/lb,
HHV = higher heating value of fuel in Btu/lb,
W = Weight % of moisture in fuel, and
H = Weight % of hydrogen in fuel.

Total energy output means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.

Unit means a stationary, fossil-fuel-fired boiler or combustion turbine or other stationary, fossil-fuel-fired combustion device. *Unit operating day* means a calendar day in which a unit combusts any fuel.

Unit operating hour or *hour of unit operation* means an hour in which a unit combusts any fuel.

Useful power means, with regard to a cogeneration unit, electricity or mechanical energy made available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Useful thermal energy means, with regard to a cogeneration unit, thermal energy that is:

(1) Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;

(2) Used in a heating application (*e.g.*, space heating or domestic hot water heating); or

(3) Used in a space cooling application (*i.e.*, thermal energy used by an absorption chiller).

Utility power distribution system means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006; 72 FR 59207, Oct. 19, 2007]

§ 97.203 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this subpart and subparts BBB through III are defined as follows:

Btu—British thermal unit.
CO_2—carbon dioxide.
H_2O—water.
Hg—mercury.
hr—hour.
kW—kilowatt electrical.
kWh—kilowatt hour.
lb—pound.
mmBtu—million Btu.
MWe—megawatt electrical.
MWh—megawatt hour.
NO_X—nitrogen oxides.
O_2—oxygen.
ppm—parts per million.
scfh—standard cubic feet per hour.
SO_2—sulfur dioxide.
yr—year.

§ 97.204 Applicability.

(a) Except as provided in paragraph (b) of this section:

(1) The following units in a State shall be CAIR SO_2 units, and any source that includes one or more such units shall be a CAIR SO_2 source, subject to the requirements of this subpart and subparts BBB through HHH of this part: any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

(2) If a stationary boiler or stationary combustion turbine that, under paragraph (a)(1) of this section, is not a CAIR SO_2 unit begins to combust fossil fuel or to serve a generator with nameplate capacity of more than 25 MWe producing electricity for sale, the unit shall become a CAIR SO_2 unit as provided in paragraph (a)(1) of this section on the first date on which it both combusts fossil fuel and serves such generator.

(b) The units in a State that meet the requirements set forth in paragraph (b)(1)(i), (b)(2)(i), or (b)(2)(ii) of this section shall not be CAIR SO_2 units:

(1)(i) Any unit that is a CAIR SO_2 unit under paragraph (a)(1) or (2) of this section:

(A) Qualifying as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit; and

(B) Not serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

(ii) If a unit qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and meets the requirements of paragraphs (b)(1)(i) of this section for at least one calendar year, but subsequently no longer meets all such requirements, the unit shall become a CAIR SO_2 unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a cogeneration unit or January 1 after the first calendar year during which the unit no longer meets the requirements of paragraph (b)(1)(i)(B) of this section.

(2)(i) Any unit that is a CAIR SO_2 unit under paragraph (a)(1) or (2) of this section commencing operation before January 1, 1985:

(A) Qualifying as a solid waste incineration unit; and

(B) With an average annual fuel consumption of non-fossil fuel for 1985–1987 exceeding 80 percent (on a Btu basis)

and an average annual fuel consumption of non-fossil fuel for any 3 consecutive calendar years after 1990 exceeding 80 percent (on a Btu basis).

(ii) Any unit that is a CAIR SO_2 unit under paragraph (a)(1) or (2) of this section commencing operation on or after January 1, 1985:

(A) Qualifying as a solid waste incineration unit; and

(B) With an average annual fuel consumption of non-fossil fuel for the first 3 calendar years of operation exceeding 80 percent (on a Btu basis) and an average annual fuel consumption of non-fossil fuel for any 3 consecutive calendar years after 1990 exceeding 80 percent (on a Btu basis).

(iii) If a unit qualifies as a solid waste incineration unit and meets the requirements of paragraph (b)(2)(i) or (ii) of this section for at least 3 consecutive calendar years, but subsequently no longer meets all such requirements, the unit shall become a CAIR SO_2 unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a solid waste incineration unit or January 1 after the first 3 consecutive calendar years after 1990 for which the unit has an average annual fuel consumption of fossil fuel of 20 percent or more.

(c) A certifying official of an owner or operator of any unit may petition the Administrator at any time for a determination concerning the applicability, under paragraphs (a) and (b) of this section, of the CAIR SO_2 Trading Program to the unit.

(1) *Petition content*. The petition shall be in writing and include the identification of the unit and the relevant facts about the unit. The petition and any other documents provided to the Administrator in connection with the petition shall include the following certification statement, signed by the certifying official: ''I am authorized to make this submission on behalf of the owners and operators of the unit for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) *Submission*. The petition and any other documents provided in connection with the petition shall be submitted to the Director of the Clean Air Markets Division (or its successor), U.S. Environmental Protection Agency, who will act on the petition as the Administrator's duly authorized representative.

(3) *Response*. The Administrator will issue a written response to the petition and may request supplemental information relevant to such petition. The Administrator's determination concerning the applicability, under paragraphs (a) and (b) of this section, of the CAIR SO_2 Trading Program to the unit shall be binding on the permitting authority unless the petition or other information or documents provided in connection with the petition are found to have contained significant, relevant errors or omissions.

§ 97.205 Retired unit exemption.

(a)(1) Any CAIR SO_2 unit that is permanently retired and is not a CAIR SO_2 opt-in unit under subpart III of this part shall be exempt from the CAIR SO_2 Trading Program, except for the provisions of this section, §§ 97.202, 97.203, 97.204, 97.206(c)(4) through (7), 97.207, 97.208, and subparts BBB, FFF, and GGG of this part.

(2) The exemption under paragraph (a)(1) of this section shall become effective the day on which the CAIR SO_2 unit is permanently retired. Within 30 days of the unit's permanent retirement, the CAIR designated representative shall submit a statement to the permitting authority otherwise responsible for administering any CAIR permit for the unit and shall submit a copy of the statement to the Administrator. The statement shall state, in a format prescribed by the permitting authority, that the unit was permanently retired on a specific date and

will comply with the requirements of paragraph (b) of this section.

(3) After receipt of the statement under paragraph (a)(2) of this section, the permitting authority will amend any permit under subpart CCC of this part covering the source at which the unit is located to add the provisions and requirements of the exemption under paragraphs (a)(1) and (b) of this section.

(b) *Special provisions.* (1) A unit exempt under paragraph (a) of this section shall not emit any sulfur dioxide, starting on the date that the exemption takes effect.

(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under paragraph (a) of this section shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the permitting authority or the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(3) The owners and operators and, to the extent applicable, the CAIR designated representative of a unit exempt under paragraph (a) of this section shall comply with the requirements of the CAIR SO_2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(4) A unit exempt under paragraph (a) of this section and located at a source that is required, or but for this exemption would be required, to have a title V operating permit shall not resume operation unless the CAIR designated representative of the source submits a complete CAIR permit application under § 97.222 for the unit not less than 18 months (or such lesser time provided by the permitting authority) before the later of January 1, 2010 or the date on which the unit resumes operation.

(5) On the earlier of the following dates, a unit exempt under paragraph (a) of this section shall lose its exemption:

(i) The date on which the CAIR designated representative submits a CAIR permit application for the unit under paragraph (b)(4) of this section;

(ii) The date on which the CAIR designated representative is required under paragraph (b)(4) of this section to submit a CAIR permit application for the unit; or

(iii) The date on which the unit resumes operation, if the CAIR designated representative is not required to submit a CAIR permit application for the unit.

(6) For the purpose of applying monitoring, reporting, and recordkeeping requirements under subpart HHH of this part, a unit that loses its exemption under paragraph (a) of this section shall be treated as a unit that commences commercial operation on the first date on which the unit resumes operation.

§ 97.206 Standard requirements.

(a) *Permit requirements.* (1) The CAIR designated representative of each CAIR SO_2 source required to have a title V operating permit and each CAIR SO_2 unit required to have a title V operating permit at the source shall:

(i) Submit to the permitting authority a complete CAIR permit application under § 97.222 in accordance with the deadlines specified in § 97.221; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review a CAIR permit application and issue or deny a CAIR permit.

(2) The owners and operators of each CAIR SO_2 source required to have a title V operating permit and each CAIR SO_2 unit required to have a title V operating permit at the source shall have a CAIR permit issued by the permitting authority under subpart CCC of this part for the source and operate the source and the unit in compliance with such CAIR permit.

(3) Except as provided in subpart III of this part, the owners and operators of a CAIR SO_2 source that is not otherwise required to have a title V operating permit and each CAIR SO_2 unit that is not otherwise required to have

a title V operating permit are not required to submit a CAIR permit application, and to have a CAIR permit, under subpart CCC of this part for such CAIR SO_2 source and such CAIR SO_2 unit.

(b) *Monitoring, reporting, and recordkeeping requirements.* (1) The owners and operators, and the CAIR designated representative, of each CAIR SO_2 source and each CAIR SO_2 unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of subpart HHH of this part.

(2) The emissions measurements recorded and reported in accordance with subpart HHH of this part shall be used to determine compliance by each CAIR SO_2 source with the CAIR SO_2 emissions limitation under paragraph (c) of this section.

(c) *Sulfur dioxide emission requirements.* (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR SO_2 source and each CAIR SO_2 unit at the source shall hold, in the source's compliance account, a tonnage equivalent in CAIR SO_2 allowances available for compliance deductions for the control period, as determined in accordance with § 97.254(a) and (b), not less than the tons of total sulfur dioxide emissions for the control period from all CAIR SO_2 units at the source, as determined in accordance with subpart HHH of this part.

(2) A CAIR SO_2 unit shall be subject to the requirements under paragraph (c)(1) of this section for the control period starting on the later of January 1, 2010 or the deadline for meeting the unit(s monitor certification requirements under § 97.270(b)(1),(2), or (5) and for each control period thereafter.

(3) A CAIR SO_2 allowance shall not be deducted, for compliance with the requirements under paragraph (c)(1) of this section, for a control period in a calendar year before the year for which the CAIR SO_2 allowance was allocated.

(4) CAIR SO_2 allowances shall be held in, deducted from, or transferred into or among CAIR SO_2 Allowance Tracking System accounts in accordance with subparts FFF, GGG, and III of this part.

(5) A CAIR SO_2 allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO_2 Trading Program. No provision of the CAIR SO_2 Trading Program, the CAIR permit application, the CAIR permit, or an exemption under § 97.205 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.

(6) A CAIR SO_2 allowance does not constitute a property right.

(7) Upon recordation by the Administrator under subpart FFF, GGG, or III of this part, every allocation, transfer, or deduction of a CAIR SO_2 allowance to or from a CAIR SO_2 source's compliance account is incorporated automatically in any CAIR permit of the source.

(d) *Excess emissions requirements.* If a CAIR SO_2 source emits sulfur dioxide during any control period in excess of the CAIR SO_2 emissions limitation, then:

(1) The owners and operators of the source and each CAIR SO_2 unit at the source shall surrender the CAIR SO_2 allowances required for deduction under § 97.254(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart, the Clean Air Act, and applicable State law.

(e) *Recordkeeping and reporting requirements.* (1) Unless otherwise provided, the owners and operators of the CAIR SO_2 source and each CAIR SO_2 unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the permitting authority or the Administrator.

(i) The certificate of representation under § 97.213 for the CAIR designated representative for the source and each CAIR SO_2 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond

such 5-year period until such documents are superseded because of the submission of a new certificate of representation under § 97.213 changing the CAIR designated representative.

(ii) All emissions monitoring information, in accordance with subpart HHH of this part, provided that to the extent that subpart HHH of this part provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR SO_2 Trading Program.

(iv) Copies of all documents used to complete a CAIR permit application and any other submission under the CAIR SO_2 Trading Program or to demonstrate compliance with the requirements of the CAIR SO_2 Trading Program.

(2) The CAIR designated representative of a CAIR SO_2 source and each CAIR SO_2 unit at the source shall submit the reports required under the CAIR SO_2 Trading Program, including those under subpart HHH of this part.

(f) *Liability*. (1) Each CAIR SO_2 source and each CAIR SO_2 unit shall meet the requirements of the CAIR SO_2 Trading Program.

(2) Any provision of the CAIR SO_2 Trading Program that applies to a CAIR SO_2 source or the CAIR designated representative of a CAIR SO_2 source shall also apply to the owners and operators of such source and of the CAIR SO_2 units at the source.

(3) Any provision of the CAIR SO_2 Trading Program that applies to a CAIR SO_2 unit or the CAIR designated representative of a CAIR SO_2 unit shall also apply to the owners and operators of such unit.

(g) *Effect on other authorities*. No provision of the CAIR SO_2 Trading Program, a CAIR permit application, a CAIR permit, or an exemption under § 97.205 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR SO_2 source or CAIR SO_2 unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

§ 97.207 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the CAIR SO_2 Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the CAIR SO_2 Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the CAIR SO_2 Trading Program, falls on a weekend or a State or Federal holiday, the time period shall be extended to the next business day.

§ 97.208 Appeal procedures.

The appeal procedures for decisions of the Administrator under the CAIR SO_2 Trading Program are set forth in part 78 of this chapter.

Subpart BBB—CAIR Designated Representative for CAIR SO_2 Sources

§ 97.210 Authorization and responsibilities of CAIR designated representative.

(a) Except as provided under § 97.211, each CAIR SO_2 source, including all CAIR SO_2 units at the source, shall have one and only one CAIR designated representative, with regard to all matters under the CAIR SO_2 Trading Program concerning the source or any CAIR SO_2 unit at the source.

(b) The CAIR designated representative of the CAIR SO_2 source shall be selected by an agreement binding on the owners and operators of the source and all CAIR SO_2 units at the source and shall act in accordance with the certification statement in § 97.213(a)(4)(iv).

(c) Upon receipt by the Administrator of a complete certificate of representation under § 97.213, the CAIR designated representative of the source shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the CAIR SO_2 source represented and each CAIR SO_2 unit at the source in all matters pertaining to the

CAIR SO_2 Trading Program, notwithstanding any agreement between the CAIR designated representative and such owners and operators. The owners and operators shall be bound by any decision or order issued to the CAIR designated representative by the permitting authority, the Administrator, or a court regarding the source or unit.

(d) No CAIR permit will be issued, no emissions data reports will be accepted, and no CAIR SO_2 Allowance Tracking System account will be established for a CAIR SO_2 unit at a source, until the Administrator has received a complete certificate of representation under § 97.213 for a CAIR designated representative of the source and the CAIR SO_2 units at the source.

(e)(1) Each submission under the CAIR SO_2 Trading Program shall be submitted, signed, and certified by the CAIR designated representative for each CAIR SO_2 source on behalf of which the submission is made. Each such submission shall include the following certification statement by the CAIR designated representative: ''I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) The permitting authority and the Administrator will accept or act on a submission made on behalf of owner or operators of a CAIR SO_2 source or a CAIR SO_2 unit only if the submission has been made, signed, and certified in accordance with paragraph (e)(1) of this section.

§ 97.211 Alternate CAIR designated representative.

(a) A certificate of representation under § 97.213 may designate one and only one alternate CAIR designated representative, who may act on behalf of the CAIR designated representative. The agreement by which the alternate CAIR designated representative is selected shall include a procedure for authorizing the alternate CAIR designated representative to act in lieu of the CAIR designated representative.

(b) Upon receipt by the Administrator of a complete certificate of representation under § 97.213, any representation, action, inaction, or submission by the alternate CAIR designated representative shall be deemed to be a representation, action, inaction, or submission by the CAIR designated representative.

(c) Except in this section and §§ 97.202, 97.210(a) and (d), 97.212, 97.213, 97.215, 97.251 and 97.282, whenever the term ''CAIR designated representative'' is used in subparts AAA through III of this part, the term shall be construed to include the CAIR designated representative or any alternate CAIR designated representative.

§ 97.212 Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.

(a) *Changing CAIR designated representative.* The CAIR designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.213. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CAIR designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new CAIR designated representative and the owners and operators of the CAIR SO_2 source and the CAIR SO_2 units at the source.

(b) *Changing alternate CAIR designated representative.* The alternate CAIR designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under

§ 97.213. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate CAIR designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new alternate CAIR designated representative and the owners and operators of the CAIR SO_2 source and the CAIR SO_2 units at the source.

(c) *Changes in owners and operators.* (1) In the event an owner or operator of a CAIR SO_2 source or a CAIR SO_2 unit is not included in the list of owners and operators in the certificate of representation under § 97.213, such owner or operator shall be deemed to be subject to and bound by the certificate of representation, the representations, actions, inactions, and submissions of the CAIR designated representative and any alternate CAIR designated representative of the source or unit, and the decisions and orders of the permitting authority, the Administrator, or a court, as if the owner or operator were included in such list.

(2) Within 30 days following any change in the owners and operators of a CAIR SO_2 source or a CAIR SO_2 unit, including the addition of a new owner or operator, the CAIR designated representative or any alternate CAIR designated representative shall submit a revision to the certificate of representation under § 97.213 amending the list of owners and operators to include the change.

§ 97.213 Certificate of representation.

(a) A complete certificate of representation for a CAIR designated representative or an alternate CAIR designated representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the CAIR SO_2 source, and each CAIR SO_2 unit at the source, for which the certificate of representation is submitted, including identification and nameplate capacity of each generator served by each such unit.

(2) The name, address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the CAIR designated representative and any alternate CAIR designated representative.

(3) A list of the owners and operators of the CAIR SO_2 source and of each CAIR SO_2 unit at the source.

(4) The following certification statements by the CAIR designated representative and any alternate CAIR designated representative—

(i) ''I certify that I was selected as the CAIR designated representative or alternate CAIR designated representative, as applicable, by an agreement binding on the owners and operators of the source and each CAIR SO_2 unit at the source.''

(ii) ''I certify that I have all the necessary authority to carry out my duties and responsibilities under the CAIR SO_2 Trading Program on behalf of the owners and operators of the source and of each CAIR SO_2 unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions.''

(iii) ''I certify that the owners and operators of the source and of each CAIR SO_2 unit at the source shall be bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.''

(iv) ''Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, a CAIR SO_2 unit, or where a utility or industrial customer purchases power from a CAIR SO_2 unit under a life-of-the-unit, firm power contractual arrangement, I certify that: I have given a written notice of my selection as the 'CAIR designated representative' or 'alternate CAIR designated representative', as applicable, and of the agreement by which I was selected to each owner and operator of the source and of each CAIR SO_2 unit at the source; and CAIR SO_2 allowances and proceeds of transactions involving CAIR SO_2 allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, except that, if such multiple holders have expressly provided for a different distribution of CAIR SO_2 allowances by contract, CAIR SO_2 allowances and proceeds of

transactions involving CAIR SO_2 allowances will be deemed to be held or distributed in accordance with the contract.''

(5) The signature of the CAIR designated representative and any alternate CAIR designated representative and the dates signed.

(b) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the certificate of representation shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

§ 97.214 Objections concerning CAIR designated representative.

(a) Once a complete certificate of representation under § 97.213 has been submitted and received, the permitting authority and the Administrator will rely on the certificate of representation unless and until a superseding complete certificate of representation under § 97.213 is received by the Administrator.

(b) Except as provided in § 97.212(a) or (b), no objection or other communication submitted to the permitting authority or the Administrator concerning the authorization, or any representation, action, inaction, or submission, of the CAIR designated representative shall affect any representation, action, inaction, or submission of the CAIR designated representative or the finality of any decision or order by the permitting authority or the Administrator under the CAIR SO_2 Trading Program.

(c) Neither the permitting authority nor the Administrator will adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any CAIR designated representative, including private legal disputes concerning the proceeds of CAIR SO_2 allowance transfers.

§ 97.215 Delegation by CAIR designated representative and alternate CAIR designated representative.

(a) A CAIR designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this part.

(b) An alternate CAIR designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this part.

(c) In order to delegate authority to make an electronic submission to the Administrator in accordance with paragraph (a) or (b) of this section, the CAIR designated representative or alternate CAIR designated representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(1) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such CAIR designated representative or alternate CAIR designated representative;

(2) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to as an ''agent'');

(3) For each such natural person, a list of the type or types of electronic submissions under paragraph (a) or (b) of this section for which authority is delegated to him or her; and

(4) The following certification statements by such CAIR designated representative or alternate CAIR designated representative:

(i) ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a CAIR designated representative or alternate CAIR designated representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.215(d) shall be deemed to be an electronic submission by me.''

(ii) ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.215(d), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.215 is terminated.''.

(d) A notice of delegation submitted under paragraph (c) of this section shall be effective, with regard to the CAIR designated representative or alternate CAIR designated representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such CAIR designated representative or alternate CAIR designated representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(e) Any electronic submission covered by the certification in paragraph (c)(4)(i) of this section and made in accordance with a notice of delegation effective under paragraph (d) of this section shall be deemed to be an electronic submission by the CAIR designated representative or alternate CAIR designated representative submitting such notice of delegation.

Subpart CCC—Permits

§ 97.220 General CAIR SO_2 Trading Program permit requirements.

(a) For each CAIR SO_2 source required to have a title V operating permit or required, under subpart III of this part, to have a title V operating permit or other federally enforceable permit, such permit shall include a CAIR permit administered by the permitting authority for the title V operating permit or the federally enforceable permit as applicable. The CAIR portion of the title V permit or other federally enforceable permit as applicable shall be administered in accordance with the permitting authority's title V operating permits regulations promulgated under part 70 or 71 of this chapter or the permitting authority's regulations for other federally enforceable permits as applicable, except as provided otherwise by § 97.205, this subpart, and subpart III of this part.

(b) Each CAIR permit shall contain, with regard to the CAIR SO_2 source and the CAIR SO_2 units at the source covered by the CAIR permit, all applicable CAIR SO_2 Trading Program, CAIR NO_X Annual Trading Program, and CAIR NO_X Ozone Season Trading Program requirements and shall be a complete and separable portion of the title V operating permit or other federally enforceable permit under paragraph (a) of this section.

§ 97.221 Submission of CAIR permit applications.

(a) *Duty to apply*. The CAIR designated representative of any CAIR SO_2 source required to have a title V operating permit shall submit to the permitting authority a complete CAIR permit application under § 97.222 for the source covering each CAIR SO_2 unit at the source at least 18 months (or such lesser time provided by the permitting authority) before the later of January 1, 2010 or the date on which the CAIR SO_2 unit commences commercial operation, except as provided in § 97.283(a).

(b) *Duty to reapply*. For a CAIR SO_2 source required to have a title V operating permit, the CAIR designated representative shall submit a complete CAIR permit application under § 97.222 for the source covering each CAIR SO_2 unit at the source to renew the CAIR permit in accordance with the permitting authority's title V operating permits regulations addressing permit renewal, except as provided in § 97.283(b).

§ 97.222 Information requirements for CAIR permit applications.

A complete CAIR permit application shall include the following elements concerning the CAIR SO_2 source for which the application is submitted, in a format prescribed by the permitting authority:

(a) Identification of the CAIR SO_2 source;

(b) Identification of each CAIR SO_2 unit at the CAIR SO_2 source; and

(c) The standard requirements under § 97.206.

§ 97.223 CAIR permit contents and term.

(a) Each CAIR permit will contain, in a format prescribed by the permitting authority, all lements required for a complete CAIR permit application under § 97.222.

(b) Each CAIR permit is deemed to incorporate automatically the definitions of terms under § 97.202 and, upon recordation by the Administrator under subpart FFF, GGG, or III of this part, every allocation, transfer, or deduction of a CAIR SO_2 allowance to or from the compliance account of the CAIR SO_2 source covered by the permit.

(c) The term of the CAIR permit will be set by the permitting authority, as necessary to facilitate coordination of the renewal of the CAIR permit with issuance, revision, or renewal of the CAIR SO_2 source's title V operating permit or other federally enforceable permit as applicable.

§ 97.224 CAIR permit revisions.

Except as provided in § 97.223(b), the permitting authority will revise the CAIR permit, as necessary, in accordance with the permitting authority's title V operating permits regulations or the permitting authority's regulations for other federally enforceable permits as applicable addressing permit revisions.

Subparts DDD–EEE [Reserved]

Subpart FFF—CAIR SO_2 Allowance Tracking System

§ 97.250 [Reserved]

§ 97.251 Establishment of accounts.

(a) *Compliance accounts.* Except as provided in § 97.284(e), upon receipt of a complete certificate of representation under § 97.213, the Administrator will establish a compliance account for the CAIR SO_2 source for which the certificate of representation was submitted, unless the source already has a compliance account.

(b) *General accounts*—(1) *Application for general account.* (i) Any person may apply to open a general account for the purpose of holding and transferring CAIR SO_2 allowances. An application for a general account may designate one and only one CAIR authorized account representative and one and only one alternate CAIR authorized account representative who may act on behalf of the CAIR authorized account representative. The agreement by which the alternate CAIR authorized account representative is selected shall include a procedure for authorizing the alternate CAIR authorized account representative to act in lieu of the CAIR authorized account representative.

(ii) A complete application for a general account shall be submitted to the Administrator and shall include the following elements in a format prescribed by the Administrator:

(A) Name, mailing address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the CAIR authorized account representative and any alternate CAIR authorized account representative;

(B) Organization name and type of organization, if applicable;

(C) A list of all persons subject to a binding agreement for the CAIR authorized account representative and any alternate CAIR authorized account representative to represent their ownership interest with respect to the CAIR SO_2 allowances held in the general account;

(D) The following certification statement by the CAIR authorized account representative and any alternate CAIR authorized account representative: ''I certify that I was selected as the CAIR authorized account representative or the alternate CAIR authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to CAIR SO_2 allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the CAIR SO_2 Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any order or decision issued to me by the Administrator or a court regarding the general account.''

(E) The signature of the CAIR authorized account representative and

any alternate CAIR authorized account representative and the dates signed.

(iii) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the application for a general account shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) *Authorization of CAIR authorized account representative and alternate CAIR authorized account representative.* (i) Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section:

(A) The Administrator will establish a general account for the person or persons for whom the application is submitted.

(B) The CAIR authorized account representative and any alternate CAIR authorized account representative for the general account shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to CAIR SO_2 allowances held in the general account in all matters pertaining to the CAIR SO_2 Trading Program, notwithstanding any agreement between the CAIR authorized account representative or any alternate CAIR authorized account representative and such person. Any such person shall be bound by any order or decision issued to the CAIR authorized account representative or any alternate CAIR authorized account representative by the Administrator or a court regarding the general account.

(C) Any representation, action, inaction, or submission by any alternate CAIR authorized account representative shall be deemed to be a representation, action, inaction, or submission by the CAIR authorized account representative.

(ii) Each submission concerning the general account shall be submitted, signed, and certified by the CAIR authorized account representative or any alternate CAIR authorized account representative for the persons having an ownership interest with respect to CAIR SO_2 allowances held in the general account. Each such submission shall include the following certification statement by the CAIR authorized account representative or any alternate CAIR authorized account representative: ''I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the CAIR SO_2 *allowances held in the general account*. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(iii) The Administrator will accept or act on a submission concerning the general account only if the submission has been made, signed, and certified in accordance with paragraph (b)(2)(ii) of this section.

(3) *Changing CAIR authorized account representative and alternate CAIR authorized account representative; changes in persons with ownership interest.* (i) The CAIR authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CAIR authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new CAIR authorized account representative and the persons with an ownership interest with respect to the CAIR SO_2 allowances in the general account.

(ii) The alternate CAIR authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a

superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate CAIR authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate CAIR authorized account representative and the persons with an ownership interest with respect to the CAIR SO_2 allowances in the general account.

(iii)(A) In the event a person having an ownership interest with respect to CAIR SO_2 allowances in the general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representation, actions, inactions, and submissions of the CAIR authorized account representative and any alternate CAIR authorized account representative of the account, and the decisions and orders of the Administrator or a court, as if the person were included in such list.

(B) Within 30 days following any change in the persons having an ownership interest with respect to CAIR SO_2 allowances in the general account, including the addition of a new person, the CAIR authorized account representative or any alternate CAIR authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the CAIR SO_2 allowances in the general account to include the change.

(4) *Objections concerning CAIR authorized account representative and alternate CAIR authorized account representative.* (i) Once a complete application for a general account under paragraph (b)(1) of this section has been submitted and received, the Administrator will rely on the application unless and until a superseding complete application for a general account under paragraph (b)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (b)(3)(i) or (ii) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative for a general account shall affect any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative or the finality of any decision or order by the Administrator under the CAIR SO_2 Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative for a general account, including private legal disputes concerning the proceeds of CAIR SO_2 allowance transfers.

(5) *Delegation by CAIR authorized account representative and alternate CAIR authorized account representative.* (i) A CAIR authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under subparts FFF and GGG of this part.

(ii) An alternate CAIR authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under subparts FFF and GGG of this part.

(iii) In order to delegate authority to make an electronic submission to the Administrator in accordance with paragraph (b)(5)(i) or (ii) of this section, the CAIR authorized account representative or alternate CAIR authorized account representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(A) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such

CAIR authorized account representative or alternate CAIR authorized account representative;

(B) The name, address, e-mail address, telephone number, and, facsimile transmission number (if any) of each such natural person (referred to as an ''agent'');

(C) For each such natural person, a list of the type or types of electronic submissions under paragraph (b)(5)(i) or (ii) of this section for which authority is delegated to him or her;

(D) The following certification statement by such CAIR authorized account representative or alternate CAIR authorized account representative: ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a CAIR authorized account representative or alternate CAIR authorized representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.251(b)(5)(iv) shall be deemed to be an electronic submission by me.''; and

(E) The following certification statement by such CAIR authorized account representative or alternate CAIR authorized account representative: ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.251 (b)(5)(iv), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address, unless all delegation of authority by me under 40 CFR 97.251 (b)(5) is terminated.''.

(iv) A notice of delegation submitted under paragraph (b)(5)(iii) of this section shall be effective, with regard to the CAIR authorized account representative or alternate CAIR authorized account representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such CAIR authorized account representative or alternate CAIR authorized account representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(v) Any electronic submission covered by the certification in paragraph (b)(5)(iii)(D) of this section and made in accordance with a notice of delegation effective under paragraph (b)(5)(iv) of this section shall be deemed to be an electronic submission by the CAIR designated representative or alternate CAIR designated representative submitting such notice of delegation.

(c) *Account identification.* The Administrator will assign a unique identifying number to each account established under paragraph (a) or (b) of this section.

§ 97.252 Responsibilities of CAIR authorized account representative.

Following the establishment of a CAIR SO_2 Allowance Tracking System account, all submissions to the Administrator pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of CAIR SO_2 allowances in the account, shall be made only by the CAIR authorized account representative for the account.

§ 97.253 Recordation of CAIR SO_2 allowances.

(a)(1) After a compliance account is established under § 97.251(a) or § 73.31(a) or (b) of this chapter, the Administrator will record in the compliance account any CAIR SO_2 allowance allocated to any CAIR SO_2 unit at the source for each of the 30 years starting the later of 2010 or the year in which the compliance account is established and any CAIR SO_2 allowance allocated for each of the 30 years starting the later of 2010 or the year in which the compliance account is established and transferred to the source in accordance with subpart GGG of this part or subpart D of part 73 of this chapter.

(2) In 2011 and each year thereafter, after Administrator has completed all deductions under § 97.254(b), the Administrator will record in the compliance account any CAIR SO_2 allowance allocated to any CAIR SO_2 unit at the source for the new 30th year (*i.e.*, the year that is 30 years after the calendar year for which such deductions are or

could be made) and any CAIR SO_2 allowance allocated for the new 30th year and transferred to the source in accordance with subpart GGG of this part or subpart D of part 73 of this chapter.

(b)(1) After a general account is established under § 97.251(b) or § 73.31(c) of this chapter, the Administrator will record in the general account any CAIR SO_2 allowance allocated for each of the 30 years starting the later of 2010 or the year in which the general account is established and transferred to the general account in accordance with subpart GGG of this part or subpart D of part 73 of this chapter.

(2) In 2011 and each year thereafter, after Administrator has completed all deductions under § 97.254(b), the Administrator will record in the general account any CAIR SO_2 allowance allocated for the new 30th year (*i.e.*, the year that is 30 years after the calendar year for which such deductions are or could be made) and transferred to the general account in accordance with subpart GGG of this part or subpart D of part 73 of this chapter.

(c) *Serial numbers for allocated CAIR SO_2 allowances.* When recording the allocation of CAIR SO_2 allowances issued by a permitting authority under § 97.288, the Administrator will assign each such CAIR SO_2 allowance a unique identification number that will include digits identifying the year of the control period for which the CAIR SO_2 allowance is allocated.

§ 97.254 Compliance with CAIR SO_2 emissions limitation.

(a) *Allowance transfer deadline.* The CAIR SO_2 allowances are available to be deducted for compliance with a source's CAIR SO_2 emissions limitation for a control period in a given calendar year only if the CAIR SO_2 allowances:

(1) Were allocated for the control period in the year or a prior year; and

(2) Are held in the compliance account as of the allowance transfer deadline for the control period or are transferred into the compliance account by a CAIR SO_2 allowance transfer correctly submitted for recordation under §§ 97.260 and 97.261 by the allowance transfer deadline for the control period.

(b) *Deductions for compliance.* Following the recordation, in accordance with § 97.261, of CAIR SO_2 allowance transfers submitted for recordation in a source's compliance account by the allowance transfer deadline for a control period, the Administrator will deduct from the compliance account CAIR SO_2 allowances available under paragraph (a) of this section in order to determine whether the source meets the CAIR SO_2 emissions limitation for the control period as follows:

(1) For a CAIR SO_2 source subject to an Acid Rain emissions limitation, the Administrator will, in the following order:

(i) Deduct the amount of CAIR SO_2 allowances, available under paragraph (a) of this section and not issued by a permitting authority under § 97.288, that is required under §§ 73.35(b) and (c) of this part. If there are sufficient CAIR SO_2 allowances to complete this deduction, the deduction will be treated as satisfying the requirements of §§ 73.35(b) and (c) of this chapter.

(ii) Deduct the amount of CAIR SO_2 allowances, not issued by a permitting authority under § 97.288, that is required under §§ 73.35(d) and 77.5 of this part. If there are sufficient CAIR SO_2 allowances to complete this deduction, the deduction will be treated as satisfying the requirements of §§ 73.35(d) and 77.5 of this chapter.

(iii) Treating the CAIR SO_2 allowances deducted under paragraph (b)(1)(i) of this section as also being deducted under this paragraph (b)(1)(iii), deduct CAIR SO_2 allowances available under paragraph (a) of this section (including any issued by a permitting authority under § 97.288) in order to determine whether the source meets the CAIR SO_2 emissions limitation for the control period, as follows:

(A) Until the tonnage equivalent of the CAIR SO_2 allowances deducted equals, or exceeds in accordance with paragraphs (c)(1) and (2) of this section, the number of tons of total sulfur dioxide emissions, determined in accordance with subpart HHH of this part, from all CAIR SO_2 units at the source for the control period; or

(B) If there are insufficient CAIR SO_2 allowances to complete the deductions

in paragraph (b)(1)(iii)(A) of this section, until no more CAIR SO_2 allowances available under paragraph (a) of this section (including any issued by a permitting authority under § 97.288) remain in the compliance account.

(2) For a CAIR SO_2 source not subject to an Acid Rain emissions limitation, the Administrator will deduct CAIR SO_2 allowances available under paragraph (a) of this section (including any issued by a permitting authority under § 97.288) in order to determine whether the source meets the CAIR SO_2 emissions limitation for the control period, as follows:

(i) Until the tonnage equivalent of the CAIR SO_2 allowances deducted equals, or exceeds in accordance with paragraphs (c)(1) and (2) of this section, the number of tons of total sulfur dioxide emissions, determined in accordance with subpart HHH of this part, from all CAIR SO_2 units at the source for the control period; or

(ii) If there are insufficient CAIR SO_2 allowances to complete the deductions in paragraph (b)(2)(i) of this section, until no more CAIR SO_2 allowances available under paragraph (a) of this section (including any issued by a permitting authority under § 97.288) remain in the compliance account.

(c)(1) *Identification of CAIR SO_2 allowances by serial number.* The CAIR authorized account representative for a source's compliance account may request that specific CAIR SO_2 allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period in accordance with paragraph (b) or (d) of this section. Such request shall be submitted to the Administrator by the allowance transfer deadline for the control period and include, in a format prescribed by the Administrator, the identification of the CAIR SO_2 source and the appropriate serial numbers.

(2) *First-in, first-out.* The Administrator will deduct CAIR SO_2 allowances under paragraph (b) or (d) of this section from the source's compliance account, in the absence of an identification or in the case of a partial identification of CAIR SO_2 allowances by serial number under paragraph (c)(1) of this section, on a first-in, first-out (FIFO) accounting basis in the following order:

(i) Any CAIR SO_2 allowances that were allocated to the units at the source for a control period before 2010, in the order of recordation;

(ii) Any CAIR SO_2 allowances that were allocated to any entity for a control period before 2010 and transferred and recorded in the compliance account pursuant to subpart GGG of this part or subpart D of part 73 of this chapter, in the order of recordation;

(iii) Any CAIR SO_2 allowances that were allocated to the units at the source for a control period during 2010 through 2014, in the order of recordation;

(iv) Any CAIR SO_2 allowances that were allocated to any entity for a control period during 2010 through 2014 and transferred and recorded in the compliance account pursuant to subpart GGG of this part or subpart D of part 73 of this chapter, in the order of recordation;

(v) Any CAIR SO_2 allowances that were allocated to the units at the source for a control period in 2015 or later, in the order of recordation; and

(vi) Any CAIR SO_2 allowances that were allocated to any entity for a control period in 2015 or later and transferred and recorded in the compliance account pursuant to subpart GGG of this part or subpart D of part 73 of this chapter, in the order of recordation.

(d) *Deductions for excess emissions.* (1) After making the deductions for compliance under paragraph (b) of this section for a control period in a calendar year in which the CAIR SO_2 source has excess emissions, the Administrator will deduct from the source's compliance account the tonnage equivalent in CAIR SO_2 allowances, allocated for the control period in the immediately following calendar year (including any issued by a permitting authority under § 97.288), equal to, or exceeding in accordance with paragraphs (c)(1) and (2) of this section 3 times the following amount: the number of tons of the source's excess emissions minus, if the source is subject to an Acid Rain emissions limitation, the amount of the CAIR SO_2 allowances required to be deducted under paragraph (b)(1)(ii) of this section.

(2) Any allowance deduction required under paragraph (d)(1) of this section shall not affect the liability of the owners and operators of the CAIR SO_2 source or the CAIR SO_2 units at the source for any fine, penalty, or assessment, or their obligation to comply with any other remedy, for the same violations, as ordered under the Clean Air Act or applicable State law.

(e) *Recordation of deductions.* The Administrator will record in the appropriate compliance account all deductions from such an account under paragraphs (b) and (d) of this section and subpart III.

(f) *Administrator's action on submissions.* (1) The Administrator may review and conduct independent audits concerning any submission under the CAIR SO_2 Trading Program and make appropriate adjustments of the information in the submissions.

(2) The Administrator may deduct CAIR SO_2 allowances from or transfer CAIR SO_2 allowances to a source's compliance account based on the information in the submissions, as adjusted under paragraph (f)(1) of this section, and record such deductions and transfers.

§ 97.255 Banking.

(a) CAIR SO_2 allowances may be banked for future use or transfer in a compliance account or a general account in accordance with paragraph (b) of this section.

(b) Any CAIR SO_2 allowance that is held in a compliance account or a general account will remain in such account unless and until the CAIR SO_2 allowance is deducted or transferred under § 97.254, § 97.256, or subpart GGG or III of this part.

§ 97.256 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any CAIR SO_2 Allowance Tracking System account. Within 10 business days of making such correction, the Administrator will notify the CAIR authorized account representative for the account.

§ 97.257 Closing of general accounts.

(a) The CAIR authorized account representative of a general account may submit to the Administrator a request to close the account, which shall include a correctly submitted allowance transfer under §§ 97.260 and 97.261 for any CAIR SO_2 allowances in the account to one or more other CAIR SO_2 Allowance Tracking System accounts.

(b) If a general account has no allowance transfers in or out of the account for a 12-month period or longer and does not contain any CAIR SO_2 allowances, the Administrator may notify the CAIR authorized account representative for the account that the account will be closed following 20 business days after the notice is sent. The account will be closed after the 20-day period unless, before the end of the 20-day period, the Administrator receives a correctly submitted transfer of CAIR SO_2 allowances into the account under §§ 97.260 and 97.261 or a statement submitted by the CAIR authorized account representative demonstrating to the satisfaction of the Administrator good cause as to why the account should not be closed.

Subpart GGG—CAIR SO_2 Allowance Transfers

§ 97.260 Submission of CAIR SO_2 allowance transfers.

(a) A CAIR authorized account representative seeking recordation of a CAIR SO_2 allowance transfer shall submit the transfer to the Administrator. To be considered correctly submitted, the CAIR SO_2 allowance transfer shall include the following elements, in a format specified by the Administrator:

(1) The account numbers of both the transferor and transferee accounts;

(2) The serial number of each CAIR SO_2 allowance that is in the transferor account and is to be transferred; and

(3) The name and signature of the CAIR authorized account representatives of the transferor and transferee accounts and the dates signed.

(b)(1) The CAIR authorized account representative for the transferee account can meet the requirements in paragraph (a)(3) of this section by submitting, in a format prescribed by the Administrator, a statement signed by

the CAIR authorized account representative and identifying each account into which any transfer of allowances, submitted on or after the date on which the Administrator receives such statement, is authorized. Such authorization shall be binding on any CAIR authorized account representative for such account and shall apply to all transfers into the account that are submitted on or after such date of receipt, unless and until the Administrator receives a statement signed by the CAIR authorized account representative retracting the authorization for the account.

(2) The statement under paragraph (b)(1) of this section shall include the following: ''By this signature I authorize any transfer of allowances into each account listed herein, except that I do not waive any remedies under State or Federal law to obtain correction of any erroneous transfers into such accounts. This authorization shall be binding on any CAIR authorized account representative for such account unless and until a statement signed by the CAIR authorized account representative retracting this authorization for the account is received by the Administrator.''

§ 97.261 EPA recordation.

(a) Within 5 business days (except as necessary to perform a transfer in perpetuity of CAIR SO_2 allowances allocated to a CAIR SO_2 unit or as provided in paragraph (b) of this section) of receiving a CAIR SO_2 allowance transfer, the Administrator will record a CAIR SO_2 allowance transfer by moving each CAIR SO_2 allowance from the transferor account to the transferee account as specified by the request, provided that:

(1) The transfer is correctly submitted under § 97.260;

(2) The transferor account includes each CAIR SO_2 allowance identified by serial number in the transfer; and

(3) The transfer is in accordance with the limitation on transfer under § 74.42 of this chapter and § 74.47(c) of this chapter, as applicable.

(b) A CAIR SO_2 allowance transfer that is submitted for recordation after the allowance transfer deadline for a control period and that includes any CAIR SO_2 allowances allocated for any control period before such allowance transfer deadline will not be recorded until after the Administrator completes the deductions under § 97.254 for the control period immediately before such allowance transfer deadline.

(c) Where a CAIR SO_2 allowance transfer submitted for recordation fails to meet the requirements of paragraph (a) of this section, the Administrator will not record such transfer.

§ 97.262 Notification.

(a) *Notification of recordation.* Within 5 business days of recordation of a CAIR SO_2 allowance transfer under § 97.261, the Administrator will notify the CAIR authorized account representatives of both the transferor and transferee accounts.

(b) *Notification of non-recordation.* Within 10 business days of receipt of a CAIR SO_2 allowance transfer that fails to meet the requirements of § 97.261(a), the Administrator will notify the CAIR authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer, and

(2) The reasons for such non-recordation.

(c) Nothing in this section shall preclude the submission of a CAIR SO_2 allowance transfer for recordation following notification of non-recordation.

Subpart HHH—Monitoring and Reporting

§ 97.270 General requirements.

The owners and operators, and to the extent applicable, the CAIR designated representative, of a CAIR SO_2 unit, shall comply with the monitoring, recordkeeping, and reporting requirements as provided in this subpart and in subparts F and G of part 75 of this chapter. For purposes of complying with such requirements, the definitions in § 97.202 and in § 72.2 of this chapter shall apply, and the terms ''affected unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') in part 75 of this chapter shall be deemed to refer to the

terms ''CAIR SO_2 unit,'' ''CAIR designated representative,'' and ''continuous emission monitoring system'' or (''CEMS'') respectively, as defined in § 97.202. The owner or operator of a unit that is not a CAIR SO_2 unit but that is monitored under § 75.16(b)(2) of this chapter shall comply with the same monitoring, recordkeeping, and reporting requirements as a CAIR SO_2 unit.

(a) *Requirements for installation, certification, and data accounting.* The owner or operator of each CAIR SO_2 unit shall:

(1) Install all monitoring systems required under this subpart for monitoring SO_2 mass emissions and individual unit heat input (including all systems required to monitor SO_2 concentration, stack gas moisture content, stack gas flow rate, CO_2 or O_2 concentration, and fuel flow rate, as applicable, in accordance with §§ 75.11 and 75.16 of this chapter);

(2) Successfully complete all certification tests required under § 97.271 and meet all other requirements of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraph (a)(1) of this section; and

(3) Record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section.

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the following dates. The owner or operator shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the following dates.

(1) For the owner or operator of a CAIR SO_2 unit that commences commercial operation before July 1, 2008, by January 1, 2009.

(2) For the owner or operator of a CAIR SO_2 unit that commences commercial operation on or after July 1, 2008, by the later of the following dates:

(i) January 1, 2009; or

(ii) 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which the unit commences commercial operation.

(3) For the owner or operator of a CAIR SO_2 unit for which construction of a new stack or flue or installation of add-on SO_2 emission controls is completed after the applicable deadline under paragraph (b)(1), (2), (4), or (5) of this section, by 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which emissions first exit to the atmosphere through the new stack or flue or add-on SO_2 emissions controls.

(4) Notwithstanding the dates in paragraphs (b)(1) and (2) of this section, for the owner or operator of a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart III of this part, by the date specified in § 97.284(b).

(5) Notwithstanding the dates in paragraphs (b)(1) and (2) of this section, for the owner or operator of a CAIR SO_2 opt-in unit under subpart III of this part, by the date on which the CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program as provided in § 97.284(g).

(c) *Reporting data.* The owner or operator of a CAIR SO_2 unit that does not meet the applicable compliance date set forth in paragraph (b) of this section for any monitoring system under paragraph (a)(1) of this section shall, for each such monitoring system, determine, record, and report maximum potential (or, as appropriate, minimum potential) values for SO_2 concentration, stack gas flow rate, stack gas moisture content, fuel flow rate, and any other parameters required to determine SO_2 mass emissions and heat input in accordance with § 75.31(b)(2) or (c)(3) of this chapter or section 2.4 of appendix D to part 75 of this chapter, as applicable.

(d) *Prohibitions.* (1) No owner or operator of a CAIR SO_2 unit shall use any alternative monitoring system, alternative reference method, or any other alternative to any requirement of this subpart without having obtained prior written approval in accordance with § 97.275.

(2) No owner or operator of a CAIR SO_2 unit shall operate the unit so as to discharge, or allow to be discharged,

SO_2 emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(3) No owner or operator of a CAIR SO_2 unit shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording SO_2 mass emissions discharged into the atmosphere or heat input, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(4) No owner or operator of a CAIR SO_2 unit shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by an exemption under § 97.205 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the Administrator for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The CAIR designated representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with § 97.271(d)(3)(i).

(e) *Long-term cold storage.* The owner or operator of a CAIR SO_2 unit is subject to the applicable provisions of part 75 of this chapter concerning units in long-term cold storage.

§ 97.271 Initial certification and recertification procedures.

(a) The owner or operator of a CAIR SO_2 unit shall be exempt from the initial certification requirements of this section for a monitoring system under § 97.270(a)(1) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with part 75 of this chapter; and

(2) The applicable quality-assurance and quality-control requirements of § 75.21 of this chapter and appendix B and appendix D to part 75 of this chapter are fully met for the certified monitoring system described in paragraph (a)(1) of this section.

(b) The recertification provisions of this section shall apply to a monitoring system under § 97.270(a)(1) exempt from initial certification requirements under paragraph (a) of this section.

(c) [Reserved]

(d) Except as provided in paragraph (a) of this section, the owner or operator of a CAIR SO_2 unit shall comply with the following initial certification and recertification procedures, for a continuous monitoring system (*i.e.*, a continuous emission monitoring system and an excepted monitoring system under appendix D to part 75 of this chapter) under § 97.270(a)(1). The owner or operator of a unit that qualifies to use the low mass emissions excepted monitoring methodology under § 75.19 of this chapter or that qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall comply with the procedures in paragraph (e) or (f) of this section respectively.

(1) *Requirements for initial certification.* The owner or operator shall ensure that each continuous monitoring system under § 97.270(a)(1) (including the automated data acquisition and handling system) successfully completes all of the initial certification testing required under § 75.20 of this chapter by the applicable deadline in § 97.270(b). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this subpart in a location where no such monitoring system was previously installed, initial certification in accordance with § 75.20 of this chapter is required.

(2) *Requirements for recertification.* Whenever the owner or operator makes a replacement, modification, or change in any certified continuous emission monitoring system under § 97.270(a)(1)

that may significantly affect the ability of the system to accurately measure or record SO_2 mass emissions or heat input rate or to meet the quality-assurance and quality-control requirements of § 75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the monitoring system in accordance with § 75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify each continuous emission monitoring system whose accuracy is potentially affected by the change, in accordance with § 75.20(b) of this chapter. Examples of changes to a continuous emission monitoring system that require recertification include: replacement of the analyzer, complete replacement of an existing continuous emission monitoring system, or change in location or orientation of the sampling probe or site. Any fuel flowmeter system under § 97.270(a)(1) is subject to the recertification requirements in § 75.20(g)(6) of this chapter.

(3) *Approval process for initial certification and recertification.* Paragraphs (d)(3)(i) through (iv) of this section apply to both initial certification and recertification of a continuous monitoring system under § 97.270(a)(1). For recertifications, replace the words ''certification'' and ''initial certification'' with the word ''recertification'', replace the word ''certified'' with the word ''recertified,'' and follow the procedures in §§ 75.20(b)(5) and (g)(7) of this chapter in lieu of the procedures in paragraph (d)(3)(v) of this section.

(i) *Notification of certification.* The CAIR designated representative shall submit to the appropriate EPA Regional Office and the Administrator written notice of the dates of certification testing, in accordance with § 97.273.

(ii) *Certification application.* The CAIR designated representative shall submit to the Administrator a certification application for each monitoring system. A complete certification application shall include the information specified in § 75.63 of this chapter.

(iii) *Provisional certification date.* The provisional certification date for a monitoring system shall be determined in accordance with § 75.20(a)(3) of this chapter. A provisionally certified monitoring system may be used under the CAIR SO_2 Trading Program for a period not to exceed 120 days after receipt by the Administrator of the complete certification application for the monitoring system under paragraph (d)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the Administrator does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of the date of receipt of the complete certification application by the Administrator.

(iv) *Certification application approval process.* The Administrator will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under paragraph (d)(3)(ii) of this section. In the event the Administrator does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the CAIR SO_2 Trading Program.

(A) *Approval notice.* If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of part 75 of this chapter, then the Administrator will issue a written notice of approval of the certification application within 120 days of receipt.

(B) *Incomplete application notice.* If the certification application is not complete, then the Administrator will issue a written notice of incompleteness that sets a reasonable date by

which the CAIR designated representative must submit the additional information required to complete the certification application. If the CAIR designated representative does not comply with the notice of incompleteness by the specified date, then the Administrator may issue a notice of disapproval under paragraph (d)(3)(iv)(C) of this section. The 120-day review period shall not begin before receipt of a complete certification application.

(C) *Disapproval notice.* If the certification application shows that any monitoring system does not meet the performance requirements of part 75 of this chapter or if the certification application is incomplete and the requirement for disapproval under paragraph (d)(3)(iv)(B) of this section is met, then the Administrator will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the Administrator and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification (as defined under § 75.20(a)(3) of this chapter). The owner or operator shall follow the procedures for loss of certification in paragraph (d)(3)(v) of this section for each monitoring system that is disapproved for initial certification.

(D) *Audit decertification.* The Administrator may issue a notice of disapproval of the certification status of a monitor in accordance with § 97.272(b).

(v) *Procedures for loss of certification.* If the Administrator issues a notice of disapproval of a certification application under paragraph (d)(3)(iv)(C) of this section or a notice of disapproval of certification status under paragraph (d)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each disapproved monitoring system, for each hour of unit operation during the period of invalid data specified under § 75.20(a)(4)(iii), § 75.20(g)(7), or § 75.21(e) of this chapter and continuing until the applicable date and hour specified under § 75.20(a)(5)(i) or (g)(7) of this chapter:

(*1*) For a disapproved SO_2 pollutant concentration monitor and disapproved flow monitor, respectively, the maximum potential concentration of SO_2 and the maximum potential flow rate, as defined in sections 2.1.1.1 and 2.1.4.1 of appendix A to part 75 of this chapter.

(*2*) For a disapproved moisture monitoring system and disapproved diluent gas monitoring system, respectively, the minimum potential moisture percentage and either the maximum potential CO_2 concentration or the minimum potential O_2 concentration (as applicable), as defined in sections 2.1.5, 2.1.3.1, and 2.1.3.2 of appendix A to part 75 of this chapter.

(*3*) For a disapproved fuel flowmeter system, the maximum potential fuel flow rate, as defined in section 2.4.2.1 of appendix D to part 75 of this chapter.

(B) The CAIR designated representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (d)(3)(i) and (ii) of this section.

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the Administrator's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(e) *Initial certification and recertification procedures for units using the low mass emission excepted methodology under § 75.19 of this chapter.* The owner or operator of a unit qualified to use the low mass emissions (LME) excepted methodology under § 75.19 of this chapter shall meet the applicable certification and recertification requirements in §§ 75.19(a)(2) and 75.20(h) of this chapter. If the owner or operator of such a unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall also meet the certification and recertification requirements in § 75.20(g) of this chapter.

(f) *Certification/recertification procedures for alternative monitoring systems.* The CAIR designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator under subpart E of part 75 of

this chapter shall comply with the applicable notification and application procedures of § 75.20(f) of this chapter.

§ 97.272 Out of control periods.

(a) Whenever any monitoring system fails to meet the quality-assurance and quality-control requirements or data validation requirements of part 75 of this chapter, data shall be substituted using the applicable missing data procedures in subpart D of appendix D to part 75 of this chapter.

(b) *Audit decertification.* Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under § 97.271 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the Administrator will issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the permitting authority or the Administrator. By issuing the notice of disapproval, the Administrator revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the applicable initial certification or recertification procedures in § 97.271 for each disapproved monitoring system.

§ 97.273 Notifications.

The CAIR designated representative for a CAIR SO_2 unit shall submit written notice to the Administrator in accordance with § 75.61 of this chapter.

§ 97.274 Recordkeeping and reporting.

(a) *General provisions.* The CAIR designated representative shall comply with all recordkeeping and reporting requirements in this section, the applicable recordkeeping and reporting requirements in subparts F and G of part 75 of this chapter, and the requirements of § 97.210(e)(1).

(b) *Monitoring Plans.* The owner or operator of a CAIR SO_2 unit shall comply with requirements of § 75.62 of this chapter and, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart III of this part, §§ 97.283 and 97.284(a).

(c) *Certification Applications.* The CAIR designated representative shall submit an application to the Administrator within 45 days after completing all initial certification or recertification tests required under § 97.271, including the information required under § 75.63 of this chapter.

(d) *Quarterly reports.* The CAIR designated representative shall submit quarterly reports, as follows:

(1) The CAIR designated representative shall report the SO_2 mass emissions data and heat input data for the CAIR SO_2 unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(i) For a unit that commences commercial operation before July 1, 2008, the calendar quarter covering January 1, 2009 through March 31, 2009;

(ii) For a unit that commences commercial operation on or after July 1, 2008, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.270(b), unless that quarter is the third or fourth quarter of 2008, in which case reporting shall commence in the quarter covering January 1, 2009 through March 31, 2009;

(iii) Notwithstanding paragraphs (d)(1)(i) and (ii) of this section, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart III of this part, the calendar quarter corresponding to the date specified in § 97.284(b); and

(iv) Notwithstanding paragraphs (d)(1)(i) and (ii) of this section, for a CAIR SO_2 opt-in unit under subpart III of this part, the calendar quarter corresponding to the date on which the CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program as provided in § 97.284(g).

(2) The CAIR designated representative shall submit each quarterly report to the Administrator within 30 days following the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in § 75.64 of this chapter.

(3) For CAIR SO_2 units that are also subject to an Acid Rain emissions limitation or the CAIR NO_X Annual Trading Program, CAIR NO_X Ozone Season Trading Program, or Hg Budget Trading Program, quarterly reports shall include the applicable data and information required by subparts F through I of part 75 of this chapter as applicable, in addition to the SO_2 mass emission data, heat input data, and other information required by this subpart.

(e) *Compliance certification.* The CAIR designated representative shall submit to the Administrator a compliance certification (in a format prescribed by the Administrator) in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(1) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications; and

(2) For a unit with add-on SO_2 emission controls and for all hours where SO_2 data are substituted in accordance with § 75.34(a)(1) of this chapter, the add-on emission controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B to part 75 of this chapter and the substitute data values do not systematically underestimate SO_2 emissions.

§ 97.275 Petitions.

The CAIR designated representative of a CAIR SO_2 unit may submit a petition under § 75.66 of this chapter to the Administrator requesting approval to apply an alternative to any requirement of this subpart. Application of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that the petition is approved in writing by the Administrator, in consultation with the permitting authority.

Subpart III—CAIR SO_2 Opt-in Units

§ 97.280 Applicability.

A CAIR SO_2 opt-in unit must be a unit that:

(a) Is located in a State that submits, and for which the Administrator approves, a State implementation plan revision in accordance with § 51.124(r)(1), (2), or (3) of this chapter establishing procedures concerning CAIR opt-in units;

(b) Is not a CAIR SO_2 unit under § 97.204 and is not covered by a retired unit exemption under § 97.205 that is in effect;

(c) Is not covered by a retired unit exemption under § 72.8 of this chapter that is in effect and is not an opt-in source under part 74 of this chapter;

(d) Has or is required or qualified to have a title V operating permit or other federally enforceable permit; and

(e) Vents all of its emissions to a stack and can meet the monitoring, recordkeeping, and reporting requirements of subpart HH of this part.

§ 97.281 General.

(a) Except as otherwise provided in §§ 97.201 through 97.204, §§ 97.206 through 97.208, and subparts BBB and CCC and subparts FFF through HHH of this part, a CAIR SO_2 opt-in unit shall be treated as a CAIR SO_2 unit for purposes of applying such sections and subparts of this part.

(b) Solely for purposes of applying, as provided in this subpart, the requirements of subpart HHH of this part to a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under this subpart, such unit shall be treated as a CAIR SO_2 unit before issuance of a CAIR opt-in permit for such unit.

§ 97.282 CAIR designated representative.

Any CAIR SO_2 opt-in unit, and any unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under this subpart, located at the same source as one or more CAIR SO_2 units shall have the same CAIR designated representative and alternate CAIR designated representative as such CAIR SO_2 units.

§ 97.283 Applying for CAIR opt-in permit.

(a) *Applying for initial CAIR opt-in permit.* The CAIR designated representative of a unit meeting the requirements for a CAIR SO_2 opt-in unit in § 97.280 may apply for an initial CAIR opt-in permit at any time, except as provided under § 97.286(f) and (g), and, in order to apply, must submit the following:

(1) A complete CAIR permit application under § 97.222;

(2) A certification, in a format specified by the permitting authority, that the unit:

(i) Is not a CAIR SO_2 unit under § 97.204 and is not covered by a retired unit exemption under § 97.205 that is in effect;

(ii) Is not covered by a retired unit exemption under § 72.8 of this chapter that is in effect;

(iii) Is not and, so long as the unit is a CAIR SO_2 opt-in unit, will not become, an opt-in source under part 74 of this chapter;

(iv) Vents all of its emissions to a stack; and

(v) Has documented heat input for more than 876 hours during the 6 months immediately preceding submission of the CAIR permit application under § 97.222;

(3) A monitoring plan in accordance with subpart HHH of this part;

(4) A complete certificate of representation under § 97.213 consistent with § 97.282, if no CAIR designated representative has been previously designated for the source that includes the unit; and

(5) A statement, in a format specified by the permitting authority, whether the CAIR designated representative requests that the unit be allocated CAIR SO_2 allowances under § 97.288(b) or § 97.288(c) (subject to the conditions in §§ 97.284(h) and 97.286(g)), to the extent such allocation is provided in a State implementation plan revision submitted in accordance with § 51.124(r)(1), (2), or (3) of this chapter and approved by the Administrator. If allocation under § 97.288(c) is requested, this statement shall include a statement that the owners and operators of the unit intend to repower the unit before January 1, 2015 and that they will provide, upon request, documentation demonstrating such intent.

(b) *Duty to reapply.* (1) The CAIR designated representative of a CAIR SO_2 opt-in unit shall submit a complete CAIR permit application under § 97.222 to renew the CAIR opt-in unit permit in accordance with the permitting authority's regulations for title V operating permits, or the permitting authority's regulations for other federally enforceable permits if applicable, addressing permit renewal.

(2) Unless the permitting authority issues a notification of acceptance of withdrawal of the CAIR SO_2 opt-in unit from the CAIR SO_2 Trading Program in accordance with § 97.286 or the unit becomes a CAIR SO_2 unit under § 97.204, the CAIR SO_2 opt-in unit shall remain subject to the requirements for a CAIR SO_2 opt-in unit, even if the CAIR designated representative for the CAIR SO_2 opt-in unit fails to submit a CAIR permit application that is required for renewal of the CAIR opt-in permit under paragraph (b)(1) of this section.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006]

§ 97.284 Opt-in process.

The permitting authority will issue or deny a CAIR opt-in permit for a unit for which an initial application for a CAIR opt-in permit under § 97.183 is submitted in accordance with the following, to the extent provided in a State implementation plan revision submitted in accordance with § 51.124(r)(1), (2), or (3) of this chapter and approved by the Administrator:

(a) *Interim review of monitoring plan.* The permitting authority and the Administrator will determine, on an interim basis, the sufficiency of the monitoring plan accompanying the initial application for a CAIR opt-in permit

under § 97.283. A monitoring plan is sufficient, for purposes of interim review, if the plan appears to contain information demonstrating that the SO_2 emissions rate and heat input of the unit and all other applicable parameters are monitored and reported in accordance with subpart HHH of this part. A determination of sufficiency shall not be construed as acceptance or approval of the monitoring plan.

(b) *Monitoring and reporting.* (1)(i) If the permitting authority and the Administrator determine that the monitoring plan is sufficient under paragraph (a) of this section, the owner or operator shall monitor and report the SO_2 emissions rate and the heat input of the unit and all other applicable parameters, in accordance with subpart HHH of this part, starting on the date of certification of the appropriate monitoring systems under subpart HHH of this part and continuing until a CAIR opt-in permit is denied under § 97.284(f) or, if a CAIR opt-in permit is issued, the date and time when the unit is withdrawn from the CAIR SO_2 Trading Program in accordance with § 97.286.

(ii) The monitoring and reporting under paragraph (b)(1)(i) of this section shall include the entire control period immediately before the date on which the unit enters the CAIR SO_2 Trading Program under § 97.284(g), during which period monitoring system availability must not be less than 90 percent under subpart HHH of this part and the unit must be in full compliance with any applicable State or Federal emissions or emissions-related requirements.

(2) To the extent the SO_2 emissions rate and the heat input of the unit are monitored and reported in accordance with subpart HHH of this part for one or more control periods, in addition to the control period under paragraph (b)(1)(ii) of this section, during which control periods monitoring system availability is not less than 90 percent under subpart HHH of this part and the unit is in full compliance with any applicable State or Federal emissions or emissions-related requirements and which control periods begin not more than 3 years before the unit enters the CAIR SO_2 Trading Program under § 97.284(g), such information shall be used as provided in paragraphs (c) and (d) of this section.

(c) *Baseline heat input.* The unit's baseline heat input shall equal:

(1) If the unit's SO_2 emissions rate and heat input are monitored and reported for only one control period, in accordance with paragraph (b)(1) of this section, the unit's total heat input (in mmBtu) for the control period; or

(2) If the unit's SO_2 emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, the average of the amounts of the unit's total heat input (in mmBtu) for the control periods under paragraphs (b)(1)(ii) and (2) of this section.

(d) *Baseline SO_2 emission rate.* The unit's baseline SO_2 emission rate shall equal:

(1) If the unit's SO_2 emissions rate and heat input are monitored and reported for only one control period, in accordance with paragraph (b)(1) of this section, the unit's SO_2 emissions rate (in lb/mmBtu) for the control period;

(2) If the unit's SO_2 emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, and the unit does not have add-on SO_2 emission controls during any such control periods, the average of the amounts of the unit's SO_2 emissions rate (in lb/mmBtu) for the control periods under paragraphs (b)(1)(ii) and (2) of this section; or

(3) If the unit's SO_2 emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, and the unit has add-on SO_2 emission controls during any such control periods, the average of the amounts of the unit's SO_2 emissions rate (in lb/mmBtu) for such control periods during which the unit has add-on SO_2 emission controls.

(e) *Issuance of CAIR opt-in permit.* After calculating the baseline heat input and the baseline SO_2 emissions rate for the unit under paragraphs (c) and (d) of this section and if the permitting authority determines that the CAIR designated representative shows

that the unit meets the requirements for a CAIR SO_2 opt-in unit in § 97.280 and meets the elements certified in § 97.283(a)(2), the permitting authority will issue a CAIR opt-in permit. The permitting authority will provide a copy of the CAIR opt-in permit to the Administrator, who will then establish a compliance account for the source that includes the CAIR SO_2 opt-in unit unless the source already has a compliance account.

(f) *Issuance of denial of CAIR opt-in permit.* Notwithstanding paragraphs (a) through (e) of this section, if at any time before issuance of a CAIR opt-in permit for the unit, the permitting authority determines that the CAIR designated representative fails to show that the unit meets the requirements for a CAIR SO_2 opt-in unit in § 97.280 or meets the elements certified in § 97.283(a)(2), the permitting authority will issue a denial of a CAIR opt-in permit for the unit.

(g) *Date of entry into CAIR SO_2 Trading Program.* A unit for which an initial CAIR opt-in permit is issued by the permitting authority shall become a CAIR SO_2 opt-in unit, and a CAIR SO_2 unit, as of the later of January 1, 2010 or January 1 of the first control period during which such CAIR opt-in permit is issued.

(h) *Repowered CAIR SO_2 opt-in unit.* (1) If CAIR designated representative requests, and the permitting authority issues a CAIR opt-in permit providing for, allocation to a CAIR SO_2 opt-in unit of CAIR SO_2 allowances under § 97.288(c) and such unit is repowered after its date of entry into the CAIR SO_2 Trading Program under paragraph (g) of this section, the repowered unit shall be treated as a CAIR SO_2 opt-in unit replacing the original CAIR SO_2 opt-in unit, as of the date of start-up of the repowered unit's combustion chamber.

(2) Notwithstanding paragraphs (c) and (d) of this section, as of the date of start-up under paragraph (h)(1) of this section, the repowered unit shall be deemed to have the same date of commencement of operation, date of commencement of commercial operation, baseline heat input, and baseline SO_2 emission rate as the original CAIR SO_2 opt-in unit, and the original CAIR SO_2 opt-in unit shall no longer be treated as a CAIR SO_2 opt-in unit or a CAIR SO_2 unit.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006]

§ 97.285 CAIR opt-in permit contents.

(a) Each CAIR opt-in permit will contain:

(1) All elements required for a complete CAIR permit application under § 97.222;

(2) The certification in § 97.283(a)(2);

(3) The unit's baseline heat input under § 97.284(c);

(4) The unit's baseline SO_2 emission rate under § 97.284(d);

(5) A statement whether the unit is to be allocated CAIR SO_2 allowances under § 97.288(b) or § 97.288(c) (subject to the conditions in §§ 97.284(h) and 97.286(g));

(6) A statement that the unit may withdraw from the CAIR SO_2 Trading Program only in accordance with § 97.286; and

(7) A statement that the unit is subject to, and the owners and operators of the unit must comply with, the requirements of § 97.287.

(b) Each CAIR opt-in permit is deemed to incorporate automatically the definitions of terms under § 97.202 and, upon recordation by the Administrator under subpart FFF or GGG of this part or this subpart, every allocation, transfer, or deduction of CAIR SO_2 allowances to or from the compliance account of the source that includes a CAIR SO_2 opt-in unit covered by the CAIR opt-in permit.

(c) The CAIR opt-in permit shall be included, in a format specified by the permitting authority, in the CAIR permit for the source where the CAIR SO_2 opt-in unit is located and in a title V operating permit or other federally enforceable permit for the source.

§ 97.286 Withdrawal from CAIR SO_2 Trading Program.

Except as provided under paragraph (g) of this section, a CAIR SO_2 opt-in unit may withdraw from the CAIR SO_2 Trading Program, but only if the permitting authority issues a notification to the CAIR designated representative of the CAIR SO_2 opt-in unit of the acceptance of the withdrawal of the CAIR

SO_2 opt-in unit in accordance with paragraph (d) of this section.

(a) *Requesting withdrawal.* In order to withdraw a CAIR SO_2 opt-in unit from the CAIR SO_2 Trading Program, the CAIR designated representative of the CAIR SO_2 opt-in unit shall submit to the permitting authority a request to withdraw effective as of midnight of December 31 of a specified calendar year, which date must be at least 4 years after December 31 of the year of entry into the CAIR SO_2 Trading Program under § 97.284(g). The request must be submitted no later than 90 days before the requested effective date of withdrawal.

(b) *Conditions for withdrawal.* Before a CAIR SO_2 opt-in unit covered by a request under paragraph (a) of this section may withdraw from the CAIR SO_2 Trading Program and the CAIR opt-in permit may be terminated under paragraph (e) of this section, the following conditions must be met:

(1) For the control period ending on the date on which the withdrawal is to be effective, the source that includes the CAIR SO_2 opt-in unit must meet the requirement to hold CAIR SO_2 allowances under § 97.206(c) and cannot have any excess emissions.

(2) After the requirement for withdrawal under paragraph (b)(1) of this section is met, the Administrator will deduct from the compliance account of the source that includes the CAIR SO_2 opt-in unit CAIR SO_2 allowances equal in amount to and allocated for the same or a prior control period as any CAIR SO_2 allowances allocated to the CAIR SO_2 opt-in unit under § 97.288 for any control period for which the withdrawal is to be effective. If there are no remaining CAIR SO_2 units at the source, the Administrator will close the compliance account, and the owners and operators of the CAIR SO_2 opt-in unit may submit a CAIR SO_2 allowance transfer for any remaining CAIR SO_2 allowances to another CAIR SO_2 Allowance Tracking System in accordance with subpart GGG of this part.

(c) *Notification.* (1) After the requirements for withdrawal under paragraphs (a) and (b) of this section are met (including deduction of the full amount of CAIR SO_2 allowances required), the permitting authority will issue a notification to the CAIR designated representative of the CAIR SO_2 opt-in unit of the acceptance of the withdrawal of the CAIR SO_2 opt-in unit as of midnight on December 31 of the calendar year for which the withdrawal was requested.

(2) If the requirements for withdrawal under paragraphs (a) and (b) of this section are not met, the permitting authority will issue a notification to the CAIR designated representative of the CAIR SO_2 opt-in unit that the CAIR SO_2 opt-in unit's request to withdraw is denied. Such CAIR SO_2 opt-in unit shall continue to be a CAIR SO_2 opt-in unit.

(d) *Permit amendment.* After the permitting authority issues a notification under paragraph (c)(1) of this section that the requirements for withdrawal have been met, the permitting authority will revise the CAIR permit covering the CAIR SO_2 opt-in unit to terminate the CAIR opt-in permit for such unit as of the effective date specified under paragraph (c)(1) of this section. The unit shall continue to be a CAIR SO_2 opt-in unit until the effective date of the termination and shall comply with all requirements under the CAIR SO_2 Trading Program concerning any control periods for which the unit is a CAIR SO_2 opt-in unit, even if such requirements arise or must be complied with after the withdrawal takes effect.

(e) *Reapplication upon failure to meet conditions of withdrawal.* If the permitting authority denies the CAIR SO_2 opt-in unit's request to withdraw, the CAIR designated representative may submit another request to withdraw in accordance with paragraphs (a) and (b) of this section.

(f) *Ability to reapply to the CAIR SO_2 Trading Program.* Once a CAIR SO_2 opt-in unit withdraws from the CAIR SO_2 Trading Program and its CAIR opt-in permit is terminated under this section, the CAIR designated representative may not submit another application for a CAIR opt-in permit under § 97.283 for such CAIR SO_2 opt-in unit before the date that is 4 years after the date on which the withdrawal became effective. Such new application for a CAIR opt-in permit will be treated as an initial application for a CAIR opt-in permit under § 97.284.

(g) *Inability to withdraw.* Notwithstanding paragraphs (a) through (f) of this section, a CAIR SO_2 opt-in unit shall not be eligible to withdraw from the CAIR SO_2 Trading Program if the CAIR designated representative of the CAIR SO_2 opt-in unit requests, and the permitting authority issues a CAIR opt-in permit providing for, allocation to the CAIR SO_2 opt-in unit of CAIR SO_2 allowances under § 97.288(c).

§ 97.287 Change in regulatory status.

(a) *Notification.* If a CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 97.204, then the CAIR designated representative shall notify in writing the permitting authority and the Administrator of such change in the CAIR SO_2 opt-in unit's regulatory status, within 30 days of such change.

(b) *Permitting authority's and Administrator's actions.* (1) If a CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 97.204, the permitting authority will revise the CAIR SO_2 opt-in unit's CAIR opt-in permit to meet the requirements of a CAIR permit under § 97.223, and remove the CAIR opt-in permit provisions, as of the date on which the CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 97.204.

(2)(i) The Administrator will deduct from the compliance account of the source that includes the CAIR SO_2 opt-in unit that becomes a CAIR SO_2 unit under § 97.204, CAIR SO_2 allowances equal in amount to and allocated for the same or a prior control period as:

(A) Any CAIR SO_2 allowances allocated to the CAIR SO_2 opt-in unit under § 97.288 for any control period after the date on which the CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 97.204; and

(B) If the date on which the CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 97.204 is not December 31, the CAIR SO_2 allowances allocated to the CAIR SO_2 opt-in unit under § 97.288 for the control period that includes the date on which the CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 97.204, multiplied by the ratio of the number of days, in the control period, starting with the date on which the CAIR SO_2 opt-in unit becomes a CAIR SO_2 unit under § 97.204 divided by the total number of days in the control period and rounded to the nearest whole allowance as appropriate.

(ii) The CAIR designated representative shall ensure that the compliance account of the source that includes the CAIR SO_2 opt-in unit that becomes a CAIR SO_2 unit under § 97.204 contains the CAIR SO_2 allowances necessary for completion of the deduction under paragraph (b)(2)(i) of this section.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006]

§ 97.288 CAIR SO_2 allowance allocations to CAIR SO_2 opt-in units.

(a) *Timing requirements.* (1) When the CAIR opt-in permit is issued under § 97.284(e), the permitting authority will allocate CAIR SO_2 allowances to the CAIR SO_2 opt-in unit, and submit to the Administrator the allocation for the control period in which a CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program under § 97.284(g), in accordance with paragraph (b) or (c) of this section.

(2) By no later than October 31 of the control period after the control period in which a CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program under § 97.284(g) and October 31 of each year thereafter, the permitting authority will allocate CAIR SO_2 allowances to the CAIR SO_2 opt-in unit, and submit to the Administrator the allocation for the control period that includes such submission deadline and in which the unit is a CAIR SO_2 opt-in unit, in accordance with paragraph (b) or (c) of this section.

(b) *Calculation of allocation.* For each control period for which a CAIR SO_2 opt-in unit is to be allocated CAIR SO_2 allowances, the permitting authority will allocate in accordance with the following procedures, if provided in a State implementation plan revision submitted in accordance with § 51.124(r)(1), (2), or (3) of this chapter and approved by the Administrator:

(1) The heat input (in mmBtu) used for calculating the CAIR SO_2 allowance allocation will be the lesser of:

(i) The CAIR SO_2 opt-in unit's baseline heat input determined under § 97.284(c); or

(ii) The CAIR SO_2 opt-in unit's heat input, as determined in accordance with subpart HHH of this part, for the

immediately prior control period, except when the allocation is being calculated for the control period in which the CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program under § 97.284(g).

(2) The SO_2 emission rate (in lb/mmBtu) used for calculating CAIR SO_2 allowance allocations will be the lesser of:

(i) The CAIR SO_2 opt-in unit's baseline SO_2 emissions rate (in lb/mmBtu) determined under § 97.284(d) and multiplied by 70 percent; or

(ii) The most stringent State or Federal SO_2 emissions limitation applicable to the CAIR SO_2 opt-in unit at any time during the control period for which CAIR SO_2 allowances are to be allocated.

(3) The permitting authority will allocate CAIR SO_2 allowances to the CAIR SO_2 opt-in unit with a tonnage equivalent equal to, or less than by the smallest possible amount, the heat input under paragraph (b)(1) of this section, multiplied by the SO_2 emission rate under paragraph (b)(2) of this section, and divided by 2,000 lb/ton.

(c) Notwithstanding paragraph (b) of this section and if the CAIR designated representative requests, and the permitting authority issues a CAIR opt-in permit (based on a demonstration of the intent to repower stated under § 97.283(a)(5)) providing for, allocation to a CAIR SO_2 opt-in unit of CAIR SO_2 allowances under this paragraph (subject to the conditions in §§ 97.284(h) and 97.286(g)), the permitting authority will allocate to the CAIR SO_2 opt-in unit as follows, if provided in a State implementation plan revision submitted in accordance with § 51.124(r)(1), (2), or (3) of this chapter and approved by the Administrator:

(1) For each control period in 2010 through 2014 for which the CAIR SO_2 opt-in unit is to be allocated CAIR SO_2 allowances,

(i) The heat input (in mmBtu) used for calculating CAIR SO_2 allowance allocations will be determined as described in paragraph (b)(1) of this section.

(ii) The SO_2 emission rate (in lb/mmBtu) used for calculating CAIR SO_2 allowance allocations will be the lesser of:

(A) The CAIR SO_2 opt-in unit's baseline SO_2 emissions rate (in lb/mmBtu) determined under § 97.284(d); or

(B) The most stringent State or Federal SO_2 emissions limitation applicable to the CAIR SO_2 opt-in unit at any time during the control period in which the CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program under § 97.284(g).

(iii) The permitting authority will allocate CAIR SO_2 allowances to the CAIR SO_2 opt-in unit with a tonnage equivalent equal to, or less than by the smallest possible amount, the heat input under paragraph (c)(1)(i) of this section, multiplied by the SO_2 emission rate under paragraph (c)(1)(ii) of this section, and divided by 2,000 lb/ton.

(2) For each control period in 2015 and thereafter for which the CAIR SO_2 opt-in unit is to be allocated CAIR SO_2 allowances,

(i) The heat input (in mmBtu) used for calculating the CAIR SO_2 allowance allocations will be determined as described in paragraph (b)(1) of this section.

(ii) The SO_2 emission rate (in lb/mmBtu) used for calculating the CAIR SO_2 allowance allocation will be the lesser of:

(A) The CAIR SO_2 opt-in unit's baseline SO_2 emissions rate (in lb/mmBtu) determined under § 97.284(d) multiplied by 10 percent; or

(B) The most stringent State or Federal SO_2 emissions limitation applicable to the CAIR SO_2 opt-in unit at any time during the control period for which CAIR SO_2 allowances are to be allocated.

(iii) The permitting authority will allocate CAIR SO_2 allowances to the CAIR SO_2 opt-in unit with a tonnage equivalent equal to, or less than by the smallest possible amount, the heat input under paragraph (c)(2)(i) of this section, multiplied by the SO_2 emission rate under paragraph (c)(2)(ii) of this section, and divided by 2,000 lb/ton.

(d) *Recordation*. If provided in a State implementation plan revision submitted in accordance with § 51.124(r)(1), (2), or (3) of this chapter and approved by the Administrator:

(1) The Administrator will record, in the compliance account of the source that includes the CAIR SO_2 opt-in unit,

the CAIR SO_2 allowances allocated by the permitting authority to the CAIR SO_2 opt-in unit under paragraph (a)(1) of this section.

(2) By December 1 of the control period in which a CAIR SO_2 opt-in unit enters the CAIR SO_2 Trading Program under § 97.284(g) and December 1 of each year thereafter, the Administrator will record, in the compliance account of the source that includes the CAIR SO_2 opt-in unit, the CAIR SO_2 allowances allocated by the permitting authority to the CAIR SO_2 opt-in unit under paragraph (a)(2) of this section.

APPENDIX A TO SUBPART III OF PART 97—STATES WITH APPROVED STATE IMPLEMENTATION PLAN REVISIONS CONCERNING CAIR SO_2 OPT-IN UNITS

1. The following States have State Implementation Plan revisions under § 51.124(r) of this chapter approved by the Administrator and establishing procedures providing for CAIR SO_2 opt-in units under subpart III of this part and allocation of CAIR SO_2 allowances to such units under § 97.288(b):

Indiana
North Carolina
Ohio
South Carolina
Tennessee

2. The following States have State Implementation Plan revisions under § 51.124(r) of this chapter approved by the Administrator and establishing procedures providing for CAIR SO_2 opt-in units under subpart III of this part and allocation of CAIR SO_2 allowances to such units under § 97.288(c):

Indiana
North Carolina
Ohio
South Carolina
Tennessee

[65 FR 2727, Jan. 18, 2000, as amended at 72 FR 46394, Aug. 20, 2007; 72 FR 56920, Oct. 5, 2007; 72 FR 57215, Oct. 9, 2007; 72 FR 59487, Oct. 22, 2007; 73 FR 6041, Feb. 1, 2008]

Subpart AAAA—CAIR NO_X Ozone Season Trading Program General Provisions

§ 97.301 Purpose.

This subpart and subparts BBBB through IIII set forth the general provisions and the designated representative, permitting, allowance, monitoring, and opt-in provisions for the Federal Clean Air Interstate Rule (CAIR) NO_X Ozone Season Trading Program, under section 110 of the Clean Air Act and § 52.35 of this chapter, as a means of mitigating interstate transport of ozone and nitrogen oxides.

§ 97.302 Definitions.

The terms used in this subpart and subparts BBBB through IIII shall have the meanings set forth in this section as follows:

Account number means the identification number given by the Administrator to each CAIR NO_X Ozone Season Allowance Tracking System account.

Acid Rain emissions limitation means a limitation on emissions of sulfur dioxide or nitrogen oxides under the Acid Rain Program.

Acid Rain Program means a multistate sulfur dioxide and nitrogen oxides air pollution control and emission reduction program established by the Administrator under title IV of the CAA and parts 72 through 78 of this chapter.

Administrator means the Administrator of the United States Environmental Protection Agency or the Administrator's duly authorized representative.

Allocate or *allocation* means, with regard to CAIR NO_X Ozone Season allowances, the determination by a permitting authority or the Administrator of the amount of such CAIR NO_X Ozone Season allowances to be initially credited to a CAIR NO_X Ozone Season unit, a new unit set-aside, or other entity.

Allowance transfer deadline means, for a control period, midnight of November 30 (if it is a business day), or midnight of the first business day thereafter (if November 30 is not a business day), immediately following the control period and is the deadline by which a CAIR NO_X Ozone Season allowance transfer must be submitted for recordation in a CAIR NO_X Ozone Season source's compliance account in order to be used to meet the source's CAIR NO_X Ozone Season emissions limitation for such control period in accordance with § 97.354.

Alternate CAIR designated representative means, for a CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit at the source, the natural

person who is authorized by the owners and operators of the source and all such units at the source, in accordance with subparts BBBB and IIII of this part, to act on behalf of the CAIR designated representative in matters pertaining to the CAIR NO_X Ozone Season Trading Program. If the CAIR NO_X Ozone Season source is also a CAIR NO_X source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR NO_X Annual Trading Program. If the CAIR NO_X Ozone Season source is also a CAIR SO_2 source, then this natural person shall be the same person as the alternate CAIR designated representative under the CAIR SO_2 Trading Program. If the CAIR NO_X Ozone Season source is also subject to the Acid Rain Program, then this natural person shall be the same person as the alternate designated representative under the Acid Rain Program. If the CAIR NO_X Ozone Season source is also subject to the Hg Budget Trading Program, then this natural person shall be the same person as the alternate Hg designated representative under the Hg Budget Trading Program.

Automated data acquisition and handling system or *DAHS* means that component of the continuous emission monitoring system, or other emissions monitoring system approved for use under subpart HHHH of this part, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by subpart HHHH of this part.

Biomass means—

(1) Any organic material grown for the purpose of being converted to energy;

(2) Any organic byproduct of agriculture that can be converted into energy; or

(3) Any material that can be converted into energy and is nonmerchantable for other purposes, that is segregated from other nonmerchantable material, and that is;

(i) A forest-related organic resource, including mill residues, precommercial thinnings, slash, brush, or byproduct from conversion of trees to merchantable material; or

(ii) A wood material, including pallets, crates, dunnage, manufacturing and construction materials (other than pressure-treated, chemically-treated, or painted wood products), and landscape or right-of-way tree trimmings.

Boiler means an enclosed fossil-or other-fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

Bottoming-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful thermal energy and at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

CAIR authorized account representative means, with regard to a general account, a responsible natural person who is authorized, in accordance with subparts BBBB, FFFF, and IIII of this part, to transfer and otherwise dispose of CAIR NO_X Ozone Season allowances held in the general account and, with regard to a compliance account, the CAIR designated representative of the source.

CAIR designated representative means, for a CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with subparts BBBB and IIII of this part, to represent and legally bind each owner and operator in matters pertaining to the CAIR NO_X Ozone Season Trading Program. If the CAIR NO_X Ozone Season source is also a CAIR NO_X source, then this natural person shall be the same person as the CAIR designated representative under the CAIR NO_X Annual Trading Program. If the CAIR NO_X Ozone Season source is also a CAIR SO_2 source, then this natural person shall be the same person as the CAIR designated representative under the CAIR SO_2 Trading Program. If the CAIR NO_X Ozone Season source is also subject to the Acid Rain Program, then this natural person shall be the same person as the designated representative under

the Acid Rain Program. If the CAIR NO_X Ozone Season source is also subject to the Hg Budget Trading Program, then this natural person shall be the same person as the Hg designated representative under the Hg Budget Trading Program.

CAIR NO_X Annual Trading Program means a multi-state nitrogen oxides air pollution control and emission reduction program established by the Administrator in accordance with subparts AA through II of this part and §§ 51.123(p) and 52.35 of this chapter or approved and administered by the Administrator in accordance with subparts AA through II of part 96 of this chapter and § 51.123(o)(1) or (2) of this chapter, as a means of mitigating interstate transport of fine particulates and nitrogen oxides.

CAIR NO_X Ozone Season allowance means a limited authorization issued by a permitting authority or the Administrator under subpart EEEE of this part, § 97.388, or provisions of a State implementation plan that are approved under § 51.123(aa)(1) or (2) (and (bb)(1)), (bb)(2), (dd), or (ee) of this chapter, to emit one ton of nitrogen oxides during a control period of the specified calendar year for which the authorization is allocated or of any calendar year thereafter under the CAIR NO_X Ozone Season Trading Program or a limited authorization issued by a permitting authority for a control period during 2003 through 2008 under the NO_X Budget Trading Program in accordance with § 51.121(p) of this chapter to emit one ton of nitrogen oxides during a control period, provided that the provision in § 51.121(b)(2)(ii)(E) of this chapter shall not be used in applying this definition and the limited authorization shall not have been used to meet the allowance-holding requirement under the NO_X Budget Trading Program. An authorization to emit nitrogen oxides that is not issued under subpart EEEE of this part, § 97.388, or provisions of a State implementation plan that are approved under § 51.123(aa)(1) or (2) (and (bb)(1)), (bb)(2), (dd), or (ee) of this chapter or under the NO_X Budget Trading Program as described in the prior sentence shall not be a CAIR NO_X Ozone Season allowance.

CAIR NO_X Ozone Season allowance deduction or *deduct CAIR NO_X Ozone Season allowances* means the permanent withdrawal of CAIR NO_X Ozone Season allowances by the Administrator from a compliance account, *e.g.*, in order to account for a specified number of tons of total nitrogen oxides emissions from all CAIR NO_X Ozone Season units at a CAIR NO_X Ozone Season source for a control period, determined in accordance with subpart HHHH of this part, or to account for excess emissions.

CAIR NO_X Ozone Season Allowance Tracking System means the system by which the Administrator records allocations, deductions, and transfers of CAIR NO_X Ozone Season allowances under the CAIR NO_X Ozone Season Trading Program. Such allowances will be allocated, held, deducted, or transferred only as whole allowances.

CAIR NO_X Ozone Season Allowance Tracking System account means an account in the CAIR NO_X Ozone Season Allowance Tracking System established by the Administrator for purposes of recording the allocation, holding, transferring, or deducting of CAIR NO_X Ozone Season allowances.

CAIR NO_X Ozone Season allowances held or *hold CAIR NO_X Ozone Season allowances* means the CAIR NO_X Ozone Season allowances recorded by the Administrator, or submitted to the Administrator for recordation, in accordance with subparts FFFF, GGGG, and IIII of this part, in a CAIR NO_X Ozone Season Allowance Tracking System account.

CAIR NO_X Ozone Season emissions limitation means, for a CAIR NO_X Ozone Season source, the tonnage equivalent, in NO_X emissions in a control period, of the CAIR NO_X Ozone Season allowances available for deduction for the source under § 97.354(a) and (b) for the control period.

CAIR NO_X Ozone Season source means a source that includes one or more CAIR NO_X Ozone Season units.

CAIR NO_X Ozone Season Trading Program means a multi-state nitrogen oxides air pollution control and emission reduction program established by the Administrator in accordance with subparts AAAA through IIII of part 96 of this part and §§ 51.123(ee) and 52.35 of

this chapter or approved and administered by the Administrator in accordance with under subparts AAAA through IIII and § 51.123(aa)(1) or (2) (and (bb)(1)), (bb)(2), or (dd) of this chapter, as a means of mitigating interstate transport of ozone and nitrogen oxides.

CAIR NO_X Ozone Season unit means a unit that is subject to the CAIR NO_X Ozone Season Trading Program under § 97.304 and, except for purposes of § 97.305 and subpart EEEE of this part, a CAIR NO_X Ozone Season opt-in unit under subpart IIII of this part.

CAIR NO_X source means a source that is subject to the CAIR NO_X Annual Trading Program.

CAIR permit means the legally binding and federally enforceable written document, or portion of such document, issued by the permitting authority under subpart CCCC of this part, including any permit revisions, specifying the CAIR NO_X Ozone Season Trading Program requirements applicable to a CAIR NO_X Ozone Season source, to each CAIR NO_X Ozone Season unit at the source, and to the owners and operators and the CAIR designated representative of the source and each such unit.

CAIR SO_2 source means a source that is subject to the CAIR SO_2 Trading Program.

CAIR SO_2 Trading Program means a multi-state sulfur dioxide air pollution control and emission reduction program established by the Administrator in accordance with subparts AAA through III of this part and §§ 51.124(r) and 52.36 of this chapter or approved and administered by the Administrator in accordance with subparts AAA through III of part 96 of this chapter and § 51.124(o)(1) or (2) of this chapter, as a means of mitigating interstate transport of fine particulates and sulfur dioxide.

Certifying official means:

(1) For a corporation, a president, secretary, treasurer, or vice-president or the corporation in charge of a principal business function or any other person who performs similar policy or decision-making functions for the corporation;

(2) For a partnership or sole proprietorship, a general partner or the proprietor respectively; or

(3) For a local government entity or State, Federal, or other public agency, a principal executive officer or ranking elected official.

Clean Air Act or *CAA* means the Clean Air Act, 42 U.S.C. 7401, *et seq.*

Coal means any solid fuel classified as anthracite, bituminous, subbituminous, or lignite.

Coal-derived fuel means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal, or chemical processing of coal.

Coal-fired means:

(1) Except for purposes of subpart EEEE of this part, combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year; or

(2) For purposes of subpart EEEE of this part, combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during a specified year.

Cogeneration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine:

(1) Having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and

(2) Producing during the 12-month period starting on the date the unit first produces electricity and during any calendar year after the calendar year in which the unit first produces electricity—

(i) For a topping-cycle cogeneration unit,

(A) Useful thermal energy not less than 5 percent of total energy output; and

(B) Useful power that, when added to one-half of useful thermal energy produced, is not less then 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output.

(ii) For a bottoming-cycle cogeneration unit, useful power not less than 45 percent of total energy input;

(3) Provided that the total energy input under paragraphs (2)(i)(B) and (2)(ii) of this definition shall equal the unit's total energy input from all fuel except biomass if the unit is a boiler.

Combustion turbine means:

(1) An enclosed device comprising a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and

(2) If the enclosed device under paragraph (1) of this definition is combined cycle, any associated duct burner, heat recovery steam generator, and steam turbine.

Commence commercial operation means, with regard to a unit:

(1) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in § 97.305 and § 97.384(h).

(i) For a unit that is a CAIR NO_X Ozone Season unit under § 97.304 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a CAIR NO_X Ozone Season unit under § 97.304 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1), (2), or (3) of this definition as appropriate.

(2) Notwithstanding paragraph (1) of this definition and except as provided in § 97.305, for a unit that is not a CAIR NO_X Ozone Season unit under § 97.304 on the later of November 15, 1990 or the date the unit commences commercial operation as defined in paragraph (1) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a CAIR NO_X Ozone Season unit under § 97.304.

(i) For a unit with a date for commencement of commercial operation as defined in paragraph (2) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in paragraph (2) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1), (2), or (3) of this definition as appropriate.

(3) Notwithstanding paragraphs (1) and (2) of this definition, for a unit not serving a generator producing electricity for sale, the unit's date of commencement of operation shall also be the unit's date of commencement of commercial operation.

Commence operation means:

(1) To have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber, except as provided in § 97.384(h).

(i) For a unit that undergoes a physical change (other than replacement of the unit by a unit at the same source) after the date the unit commences operation as defined in paragraph (1) of this definition, such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is replaced by a unit at the same source (*e.g.*, repowered) after the date the unit commences operation as defined in paragraph (1) of this definition, such date

shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in paragraph (1) or (2) of this definition as appropriate, except as provided in § 97.384(h).

(2) Notwithstanding paragraph (1) of this definition and solely for purposes of subpart HHHH of this part, for a unit that is not a CAIR NO_X Ozone Season unit under § 97.304(d) on the later of November 15, 1990 or the date the unit commences operation as defined in paragraph (1) of this definition and subsequently becomes such a CAIR NO_X Ozone Season unit, the unit's date for commencement of operation shall be the date on which the unit becomes a CAIR NO_X Ozone Season unit under § 97.304(d).

(i) For a unit with a date for commencement of operation as defined in paragraph (2) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of operation as defined in paragraph (2) of this definition and that is subsequently replaced by a unit at the same source (*e.g.*, repowered), such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in paragraph (1) or (2) of this definition as appropriate.

Common stack means a single flue through which emissions from 2 or more units are exhausted.

Compliance account means a CAIR NO_X Ozone Season Allowance Tracking System account, established by the Administrator for a CAIR NO_X Ozone Season source under subpart FFFF or IIII of this part, in which any CAIR NO_X Ozone Season allowance allocations for the CAIR NO_X Ozone Season units at the source are initially recorded and in which are held any CAIR NO_X Ozone Season allowances available for use for a control period in order to meet the source's CAIR NO_X Ozone Season emissions limitation in accordance with § 97.354.

Continuous emission monitoring system or *CEMS* means the equipment required under subpart HHHH of this part to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes (using an automated data acquisition and handling system (DAHS)), a permanent record of nitrogen oxides emissions, stack gas volumetric flow rate, stack gas moisture content, and oxygen or carbon dioxide concentration (as applicable), in a manner consistent with part 75 of this chapter. The following systems are the principal types of continuous emission monitoring systems required under subpart HHHH of this part:

(1) A flow monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);

(2) A nitrogen oxides concentration monitoring system, consisting of a NO_X pollutant concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X emissions, in parts per million (ppm);

(3) A nitrogen oxides emission rate (or NO_X-diluent) monitoring system, consisting of a NO_X pollutant concentration monitor, a diluent gas (CO_2 or O_2) monitor, and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X concentration, in parts per million (ppm), diluent gas concentration, in percent CO_2 or O_2, and NO_X emission rate, in pounds per million British thermal units (lb/mmBtu);

(4) A moisture monitoring system, as defined in § 75.11(b)(2) of this chapter and providing a permanent, continuous record of the stack gas moisture content, in percent H_2O;

(5) A carbon dioxide monitoring system, consisting of a CO_2 pollutant concentration monitor (or an oxygen monitor plus suitable mathematical equations from which the CO_2 concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous

record of CO_2 emissions, in percent CO_2; and

(6) An oxygen monitoring system, consisting of an O_2 concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O_2, in percent O_2.

Control period or *ozone season* means the period beginning May 1 of a calendar year, except as provided in § 97.306(c)(2) and ending on September 30 of the same year, inclusive.

Emissions means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the CAIR designated representative and as determined by the Administrator in accordance with subpart HHHH of this part.

Excess emissions means any ton of nitrogen oxides emitted by the CAIR NO_X Ozone Season units at a CAIR NO_X Ozone Season source during a control period that exceeds the CAIR NO_X Ozone Season emissions limitation for the source.

Fossil fuel means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.

Fossil-fuel-fired means, with regard to a unit, combusting any amount of fossil fuel in any calendar year.

Fuel oil means any petroleum-based fuel (including diesel fuel or petroleum derivatives such as oil tar) and any recycled or blended petroleum products or petroleum by-products used as a fuel whether in a liquid, solid, or gaseous state.

General account means a CAIR NO_X Ozone Season Allowance Tracking System account, established under subpart FFFF of this part, that is not a compliance account.

Generator means a device that produces electricity.

Gross electrical output means, with regard to a cogeneration unit, electricity made available for use, including any such electricity used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Heat input means, with regard to a specified period of time, the product (in mmBtu/time) of the gross calorific value of the fuel (in Btu/lb) divided by 1,000,000 Btu/mmBtu and multiplied by the fuel feed rate into a combustion device (in lb of fuel/time), as measured, recorded, and reported to the Administrator by the CAIR designated representative and determined by the Administrator in accordance with subpart HHHH of this part and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.

Heat input rate means the amount of heat input (in mmBtu) divided by unit operating time (in hr) or, with regard to a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Hg Budget Trading Program means a multi-state Hg air pollution control and emission reduction program approved and administered by the Administrator in accordance subpart HHHH of part 60 of this chapter and § 60.24(h)(6), or established by the Administrator under section 111 of the Clean Air Act, as a means of reducing national Hg emissions.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period no less than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input means the maximum amount of fuel per hour (in

Btu/hr) that a unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.

Monitoring system means any monitoring system that meets the requirements of subpart HHHH of this part, including a continuous emissions monitoring system, an alternative monitoring system, or an excepted monitoring system under part 75 of this chapter.

Most stringent State or Federal NO_X emissions limitation means, with regard to a unit, the lowest NO_X emissions limitation (in terms of lb/mmBtu) that is applicable to the unit under State or Federal law, regardless of the averaging period to which the emissions limitation applies.

Nameplate capacity means, starting from the initial installation of a generator, the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output (in MWe) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings), such increased maximum amount as of such completion as specified by the person conducting the physical change.

Oil-fired means, for purposes of subpart EEEE of this part, combusting fuel oil for more than 15.0 percent of the annual heat input in a specified year and not qualifying as coal-fired.

Operator means any person who operates, controls, or supervises a CAIR NO_X Ozone Season unit or a CAIR NO_X Ozone Season source and shall include, but not be limited to, any holding company, utility system, or plant manager of such a unit or source.

Owner means any of the following persons:

(1) With regard to a CAIR NO_X Ozone Season source or a CAIR NO_X Ozone Season unit at a source, respectively:

(i) Any holder of any portion of the legal or equitable title in a CAIR NO_X Ozone Season unit at the source or the CAIR NO_X Ozone Season unit;

(ii) Any holder of a leasehold interest in a CAIR NO_X Ozone Season unit at the source or the CAIR NO_X Ozone Season unit; or

(iii) Any purchaser of power from a CAIR NO_X Ozone Season unit at the source or the CAIR NO_X Ozone Season unit under a life-of-the-unit, firm power contractual arrangement; provided that, unless expressly provided for in a leasehold agreement, owner shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based (either directly or indirectly) on the revenues or income from such CAIR NO_X Ozone Season unit; or

(2) With regard to any general account, any person who has an ownership interest with respect to the CAIR NO_X Ozone Season allowances held in the general account and who is subject to the binding agreement for the CAIR authorized account representative to represent the person's ownership interest with respect to CAIR NO_X Ozone Season allowances.

Permitting authority means the State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to issue or revise permits to meet the requirements of the CAIR NO_X Ozone Season Trading Program or, if no such agency has been so authorized, the Administrator.

Potential electrical output capacity means 33 percent of a unit(s maximum design heat input, divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

Receive or receipt of means, when referring to the permitting authority or the Administrator, to come into possession of a document, information, or correspondence (whether sent in hard copy or by authorized electronic transmission), as indicated in an official log, or by a notation made on the document, information, or correspondence,

by the permitting authority or the Administrator in the regular course of business.

Recordation, *record*, or *recorded* means, with regard to CAIR NO_X Ozone Season allowances, the movement of CAIR NO_X Ozone Season allowances by the Administrator into or between CAIR NO_X Ozone Season Allowance Tracking System accounts, for purposes of allocation, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in § 75.22 of this chapter.

Replacement, *replace*, or *replaced* means, with regard to a unit, the demolishing of a unit, or the permanent shutdown and permanent disabling of a unit, and the construction of another unit (the replacement unit) to be used instead of the demolished or shutdown unit (the replaced unit).

Repowered means, with regard to a unit, replacement of a coal-fired boiler with one of the following coal-fired technologies at the same source as the coal-fired boiler:

(1) Atmospheric or pressurized fluidized bed combustion;

(2) Integrated gasification combined cycle;

(3) Magnetohydrodynamics;

(4) Direct and indirect coal-fired turbines;

(5) Integrated gasification fuel cells; or

(6) As determined by the Administrator in consultation with the Secretary of Energy, a derivative of one or more of the technologies under paragraphs (1) through (5) of this definition and any other coal-fired technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of January 1, 2005.

Sequential use of energy means:

(1) For a topping-cycle cogeneration unit, the use of reject heat from electricity production in a useful thermal energy application or process; or

(2) For a bottoming-cycle cogeneration unit, the use of reject heat from useful thermal energy application or process in electricity production.

Serial number means, for a CAIR NO_X Ozone Season allowance, the unique identification number assigned to each CAIR NO_X Ozone Season allowance by the Administrator.

Solid waste incineration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a ''solid waste incineration unit'' as defined in section 129(g)(1) of the Clean Air Act.

Source means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons. For purposes of section 502(c) of the Clean Air Act, a ''source,'' including a ''source'' with multiple units, shall be considered a single ''facility.''

State means one of the States or the District of Columbia that is subject to the CAIR NO_X Ozone Season Trading Program pursuant to § 52.35 of this chapter.

Submit or serve means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery. Compliance with any ''submission'' or ''service'' deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Title V operating permit means a permit issued under title V of the Clean Air Act and part 70 or part 71 of this chapter.

Title V operating permit regulations means the regulations that the Administrator has approved or issued as meeting the requirements of title V of the Clean Air Act and part 70 or 71 of this chapter.

Ton means 2,000 pounds. For the purpose of determining compliance with the CAIR NO_X Ozone Season emissions limitation, total tons of nitrogen oxides emissions for a control period shall be calculated as the sum of all recorded hourly emissions (or the mass

equivalent of the recorded hourly emission rates) in accordance with subpart HHHH of this part, but with any remaining fraction of a ton equal to or greater than 0.50 tons deemed to equal one ton and any remaining fraction of a ton less than 0.50 tons deemed to equal zero tons.

Topping-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful power, including electricity, and at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

Total energy input means, with regard to a cogeneration unit, total energy of all forms supplied to the cogeneration unit, excluding energy produced by the cogeneration unit itself. Each form of energy supplied shall be measured by the lower heating value of that form of energy calculated as follows:

$$LHV = HHV - 10.55(W + 9H)$$

Where:

LHV = lower heating value of fuel in Btu/lb,
HHV = higher heating value of fuel in Btu/lb,
W = Weight % of moisture in fuel, and
H = Weight % of hydrogen in fuel.

Total energy output means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.

Unit means a stationary, fossil-fuel-fired boiler or combustion turbine or other stationary, fossil-fuel-fired combustion device.

Unit operating day means a calendar day in which a unit combusts any fuel.

Unit operating hour or *hour of unit operation* means an hour in which a unit combusts any fuel.

Useful power means, with regard to a cogeneration unit, electricity or mechanical energy made available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Useful thermal energy means, with regard to a cogeneration unit, thermal energy that is:

(1) Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;

(2) Used in a heating application (*e.g.*, space heating or domestic hot water heating); or

(3) Used in a space cooling application (*i.e.*, thermal energy used by an absorption chiller).

Utility power distribution system means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006; 72 FR 59207, Oct. 19, 2007]

§ 97.303 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this subpart and subparts BBBB through IIII are defined as follows:

Btu—British thermal unit.
CO_2—carbon dioxide.
H_2O—water.
Hg—mercury.
hr—hour.
kW—kilowatt electrical.
kWh—kilowatt hour.
lb—pound.
mmBtu—million Btu.
MWe—megawatt electrical.
MWh—megawatt hour.
NO_X—nitrogen oxides.
O_2—oxygen.
ppm—parts per million.
scfh—standard cubic feet per hour.
SO_2—sulfur dioxide.
yr—year.

§ 97.304 Applicability.

(a) Except as provided in paragraph (b) of this section:

(1) The following units in a State shall be CAIR NO_X Ozone Season units, and any source that includes one or more such units shall be a CAIR NO_X Ozone Season source, subject to the requirements of this subpart and subparts BBBB through HHHH of this part: any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, since the later of November 15, 1990 or the start-up of the unit(s combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

(2) If a stationary boiler or stationary combustion turbine that, under paragraph (a)(1) of this section, is not a CAIR NO_X Ozone Season unit begins to combust fossil fuel or to serve a generator with nameplate capacity of more than 25 MWe producing electricity for sale, the unit shall become a CAIR NO_X Ozone Season unit as provided in paragraph (a)(1) of this section on the first date on which it both combusts fossil fuel and serves such generator.

(b) The units in a State that meet the requirements set forth in paragraph (b)(1)(i), (b)(2)(i), or (b)(2)(ii) of this section shall not be CAIR NO_X Ozone Season units:

(1)(i) Any unit that is a CAIR NO_X Ozone Season unit under paragraph (a)(1) or (2) of this section:

(A) Qualifying as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit; and

(B) Not serving at any time, since the later of November 15, 1990 or the start-up of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe supplying in any calendar year more than one-third of the unit(s potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

(ii) If a unit qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and meets the requirements of paragraphs (b)(1)(i) of this section for at least one calendar year, but subsequently no longer meets all such requirements, the unit shall become a CAIR NO_X Ozone Season unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a cogeneration unit or January 1 after the first calendar year during which the unit no longer meets the requirements of paragraph (b)(1)(i)(B) of this section.

(2)(i) Any unit that is a CAIR NO_X Ozone Season unit under paragraph (a)(1) or (2) of this section commencing operation before January 1, 1985:

(A) Qualifying as a solid waste incineration unit; and

(B) With an average annual fuel consumption of non-fossil fuel for 1985–1987 exceeding 80 percent (on a Btu basis) and an average annual fuel consumption of non-fossil fuel for any 3 consecutive calendar years after 1990 exceeding 80 percent (on a Btu basis).

(ii) Any unit that is a CAIR NO_X Ozone Season unit under paragraph (a)(1) or (2) of this section commencing operation on or after January 1, 1985:

(A) Qualifying as a solid waste incineration unit; and

(B) With an average annual fuel consumption of non-fossil fuel for the first 3 calendar years of operation exceeding 80 percent (on a Btu basis) and an average annual fuel consumption of non-fossil fuel for any 3 consecutive calendar years after 1990 exceeding 80 percent (on a Btu basis).

(iii) If a unit qualifies as a solid waste incineration unit and meets the requirements of paragraph (b)(2)(i) or (ii) of this section for at least 3 consecutive calendar years, but subsequently no longer meets all such requirements, the unit shall become a CAIR NO_X Ozone Season unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a solid waste incineration unit or January 1 after the first 3 consecutive calendar years after 1990 for which the unit has an average annual fuel consumption of fossil fuel of 20 percent or more.

(c) A certifying official of an owner or operator of any unit may petition the Administrator at any time for a determination concerning the applicability, under paragraphs (a) and (b) of this section, of the CAIR NO_X Ozone Season Trading Program to the unit.

(1) *Petition content.* The petition shall be in writing and include the identification of the unit and the relevant facts about the unit. The petition and any other documents provided to the Administrator in connection with the petition shall include the following certification statement, signed by the certifying official: ''I am authorized to make this submission on behalf of the owners and operators of the unit for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information

submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) *Submission*. The petition and any other documents provided in connection with the petition shall be submitted to the Director of the Clean Air Markets Division (or its successor), U.S. Environmental Protection Agency, who will act on the petition as the Administrator's duly authorized representative.

(3) *Response*. The Administrator will issue a written response to the petition and may request supplemental information relevant to such petition. The Administrator's determination concerning the applicability, under paragraphs (a) and (b) of this section, of the CAIR NO_X Ozone Season Trading Program to the unit shall be binding on the permitting authority unless the petition or other information or documents provided in connection with the petition are found to have contained significant, relevant errors or omissions.

(d) Notwithstanding paragraphs (a) and (b) of this section, if a State submits, and the Administrator approves, a State implementation plan revision in accordance with § 51.123(ee)(1) of this chapter providing for the inclusion in the CAIR NO_X Ozone Season Trading Program of all units that are not otherwise CAIR NO_X Ozone Season units under paragraphs (a) and (b) of this section and that are NO_X Budget units covered by the State's emissions trading program approved under § 51.121(p) of this chapter, such units shall be CAIR NO_X Ozone Season units as of the first date that they are NO_X Budget units under the NO_X Budget Trading Program under § 51.121(p) of this chapter.

§ 97.305 Retired unit exemption.

(a)(1) Any CAIR NO_X Ozone Season unit that is permanently retired and is not a CAIR NO_X Ozone Season opt-in unit under subpart IIII of this part shall be exempt from the CAIR NO_X Ozone Season Trading Program, except for the provisions of this section, §§ 97.302, 97.303, 97.304, 97.306(c)(4) through (7), 97.307, 97.308, and subparts BBBB and EEEE through GGGG of this part.

(2) The exemption under paragraph (a)(1) of this section shall become effective the day on which the CAIR NO_X Ozone Season unit is permanently retired. Within 30 days of the unit's permanent retirement, the CAIR designated representative shall submit a statement to the permitting authority otherwise responsible for administering any CAIR permit for the unit and shall submit a copy of the statement to the Administrator. The statement shall state, in a format prescribed by the permitting authority, that the unit was permanently retired on a specific date and will comply with the requirements of paragraph (b) of this section.

(3) After receipt of the statement under paragraph (a)(2) of this section, the permitting authority will amend any permit under subpart CCCC of this part covering the source at which the unit is located to add the provisions and requirements of the exemption under paragraphs (a)(1) and (b) of this section.

(b) *Special provisions*. (1) A unit exempt under paragraph (a) of this section shall not emit any nitrogen oxides, starting on the date that the exemption takes effect.

(2) The Administrator or the permitting authority will allocate CAIR NO_X Ozone Season allowances under subpart EEEE of this part to a unit exempt under paragraph (a) of this section.

(3) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under paragraph (a) of this section shall retain at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the

permitting authority or the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(4) The owners and operators and, to the extent applicable, the CAIR designated representative of a unit exempt under paragraph (a) of this section shall comply with the requirements of the CAIR NO_X Ozone Season Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(5) A unit exempt under paragraph (a) of this section and located at a source that is required, or but for this exemption would be required, to have a title V operating permit shall not resume operation unless the CAIR designated representative of the source submits a complete CAIR permit application under § 97.322 for the unit not less than 18 months (or such lesser time provided by the permitting authority) before the later of January 1, 2009 or the date on which the unit resumes operation.

(6) On the earlier of the following dates, a unit exempt under paragraph (a) of this section shall lose its exemption:

(i) The date on which the CAIR designated representative submits a CAIR permit application for the unit under paragraph (b)(5) of this section;

(ii) The date on which the CAIR designated representative is required under paragraph (b)(5) of this section to submit a CAIR permit application for the unit; or

(iii) The date on which the unit resumes operation, if the CAIR designated representative is not required to submit a CAIR permit application for the unit.

(7) For the purpose of applying monitoring, reporting, and recordkeeping requirements under subpart HHHH of this part, a unit that loses its exemption under paragraph (a) of this section shall be treated as a unit that commences commercial operation on the first date on which the unit resumes operation.

§ 97.306 Standard requirements.

(a) *Permit requirements.* (1) The CAIR designated representative of each CAIR NO_X Ozone Season source required to have a title V operating permit and each CAIR NO_X Ozone Season unit required to have a title V operating permit at the source shall:

(i) Submit to the permitting authority a complete CAIR permit application under § 97.322 in accordance with the deadlines specified in § 97.321; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review a CAIR permit application and issue or deny a CAIR permit.

(2) The owners and operators of each CAIR NO_X Ozone Season source required to have a title V operating permit and each CAIR NO_X Ozone Season unit required to have a title V operating permit at the source shall have a CAIR permit issued by the permitting authority under subpart CCCC of this part for the source and operate the source and the unit in compliance with such CAIR permit.

(3) Except as provided in subpart IIII of this part, the owners and operators of a CAIR NO_X Ozone Season source that is not otherwise required to have a title V operating permit and each CAIR NO_X Ozone Season unit that is not otherwise required to have a title V operating permit are not required to submit a CAIR permit application, and to have a CAIR permit, under subpart CCCC of this part for such CAIR NO_X Ozone Season source and such CAIR NO_X Ozone Season unit.

(b) *Monitoring, reporting, and recordkeeping requirements.* (1) The owners and operators, and the CAIR designated representative, of each CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of subpart HHHH of this part.

(2) The emissions measurements recorded and reported in accordance with subpart HHHH of this part shall be used to determine compliance by each CAIR NO_X Ozone Season source with the CAIR NO_X Ozone Season emissions limitation under paragraph (c) of this section.

(c) *Nitrogen oxides ozone season emission requirements.* (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit at the source shall hold, in the source's compliance account, CAIR NO_X Ozone Season allowances available for compliance deductions for the control period under § 97.354(a) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_X Ozone Season units at the source, as determined in accordance with subpart HHHH of this part.

(2) A CAIR NO_X Ozone Season unit shall be subject to the requirements under paragraph (c)(1) of this section for the control period starting on the later of May 1, 2009 or the deadline for meeting the unit's monitor certification requirements under § 97.370(b)(1), (2), (3), or (7) and for each control period thereafter.

(3) A CAIR NO_X Ozone Season allowance shall not be deducted, for compliance with the requirements under paragraph (c)(1) of this section, for a control period in a calendar year before the year for which the CAIR NO_X Ozone Season allowance was allocated.

(4) CAIR NO_X Ozone Season allowances shall be held in, deducted from, or transferred into or among CAIR NO_X Ozone Season Allowance Tracking System accounts in accordance with subparts EEEE, FFFF, GGGG, and IIII of this part.

(5) A CAIR NO_X Ozone Season allowance is a limited authorization to emit one ton of nitrogen oxides in accordance with the CAIR NO_X Ozone Season Trading Program. No provision of the CAIR NO_X Ozone Season Trading Program, the CAIR permit application, the CAIR permit, or an exemption under § 97.305 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.

(6) A CAIR NO_X Ozone Season allowance does not constitute a property right.

(7) Upon recordation by the Administrator under subpart EEEE, FFFF, GGGG, or IIII of this part, every allocation, transfer, or deduction of a CAIR NO_X Ozone Season allowance to or from a CAIR NO_X Ozone Season source's compliance account is incorporated automatically in any CAIR permit of the source.

(d) *Excess emissions requirements.* If a CAIR NO_X Ozone Season source emits nitrogen oxides during any control period in excess of the CAIR NO_X Ozone Season emissions limitation, then:

(1) The owners and operators of the source and each CAIR NO_X Ozone Season unit at the source shall surrender the CAIR NO_X Ozone Season allowances required for deduction under § 97.354(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart, the Clean Air Act, and applicable State law.

(e) *Recordkeeping and reporting requirements.* (1) Unless otherwise provided, the owners and operators of the CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the permitting authority or the Administrator.

(i) The certificate of representation under § 97.313 for the CAIR designated representative for the source and each CAIR NO_X Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under § 97.313 changing the CAIR designated representative.

(ii) All emissions monitoring information, in accordance with subpart HHHH of this part, provided that to the extent that subpart HHHH of this part provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO_X Ozone Season Trading Program.

(iv) Copies of all documents used to complete a CAIR permit application and any other submission under the CAIR NO_X Ozone Season Trading Program or to demonstrate compliance with the requirements of the CAIR NO_X Ozone Season Trading Program.

(2) The CAIR designated representative of a CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit at the source shall submit the reports required under the CAIR NO_X Ozone Season Trading Program, including those under subpart HHHH of this part.

(f) *Liability*. (1) Each CAIR NO_X Ozone Season source and each CAIR NO_X Ozone Season unit shall meet the requirements of the CAIR NO_X Ozone Season Trading Program.

(2) Any provision of the CAIR NO_X Ozone Season Trading Program that applies to a CAIR NO_X Ozone Season source or the CAIR designated representative of a CAIR NO_X Ozone Season source shall also apply to the owners and operators of such source and of the CAIR NO_X Ozone Season units at the source.

(3) Any provision of the CAIR NO_X Ozone Season Trading Program that applies to a CAIR NO_X Ozone Season unit or the CAIR designated representative of a CAIR NO_X Ozone Season unit shall also apply to the owners and operators of such unit.

(g) *Effect on other authorities*. No provision of the CAIR NO_X Ozone Season Trading Program, a CAIR permit application, a CAIR permit, or an exemption under § 97.305 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_X Ozone Season source or CAIR NO_X Ozone Season unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

§ 97.307 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the CAIR NO_X Ozone Season Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the CAIR NO_X Ozone Season Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the CAIR NO_X Ozone Season Trading Program, falls on a weekend or a State or Federal holiday, the time period shall be extended to the next business day.

§ 97.308 Appeal procedures.

The appeal procedures for decisions of the Administrator under the CAIR NO_X Ozone Season Trading Program are set forth in part 78 of this chapter.

APPENDIX A TO SUBPART AAAA OF PART 97—STATES WITH APPROVED STATE IMPLEMENTATION PLAN REVISIONS CONCERNING APPLICABILITY

The following States have State Implementation Plan revisions under § 51.123(ee)(1) of this chapter approved by the Administrator and providing for expansion of the applicability provisions to include all non-EGUs subject to the respective State's emission trading program approved under § 51.121(p) of this chapter:

Michigan
Tennessee

[65 FR 2727, Jan. 18, 2000, as amended at 72 FR 72262, Dec. 20, 2007; 74 FR 61537, Nov. 25, 2009]

Subpart BBBB—CAIR Designated Representative for CAIR NO_X Ozone Season Sources

§ 97.310 Authorization and responsibilities of CAIR designated representative.

(a) Except as provided under § 97.311, each CAIR NO_X Ozone Season source, including all CAIR NO_X Ozone Season units at the source, shall have one and only one CAIR designated representative, with regard to all matters under the CAIR NO_X Ozone Season Trading Program concerning the source or any CAIR NO_X Ozone Season unit at the source.

(b) The CAIR designated representative of the CAIR NO_X Ozone Season source shall be selected by an agreement binding on the owners and operators of the source and all CAIR NO_X Ozone Season units at the source and shall act in accordance with the certification statement in § 97.313(a)(4)(iv).

(c) Upon receipt by the Administrator of a complete certificate of representation under § 97.313, the CAIR designated representative of the source shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the CAIR NO_X Ozone Season source represented and each CAIR NO_X Ozone Season unit at the source in all matters pertaining to the CAIR NO_X Ozone Season Trading Program, notwithstanding any agreement between the CAIR designated representative and such owners and operators. The owners and operators shall be bound by any decision or order issued to the CAIR designated representative by the permitting authority, the Administrator, or a court regarding the source or unit.

(d) No CAIR permit will be issued, no emissions data reports will be accepted, and no CAIR NO_X Ozone Season Allowance Tracking System account will be established for a CAIR NO_X Ozone Season unit at a source, until the Administrator has received a complete certificate of representation under § 97.313 for a CAIR designated representative of the source and the CAIR NO_X Ozone Season units at the source.

(e)(1) Each submission under the CAIR NO_X Ozone Season Trading Program shall be submitted, signed, and certified by the CAIR designated representative for each CAIR NO_X Ozone Season source on behalf of which the submission is made. Each such submission shall include the following certification statement by the CAIR designated representative: ''I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) The permitting authority and the Administrator will accept or act on a submission made on behalf of owner or operators of a CAIR NO_X Ozone Season source or a CAIR NO_X Ozone Season unit only if the submission has been made, signed, and certified in accordance with paragraph (e)(1) of this section.

§ 97.311 Alternate CAIR designated representative.

(a) A certificate of representation under § 97.313 may designate one and only one alternate CAIR designated representative, who may act on behalf of the CAIR designated representative. The agreement by which the alternate CAIR designated representative is selected shall include a procedure for authorizing the alternate CAIR designated representative to act in lieu of the CAIR designated representative.

(b) Upon receipt by the Administrator of a complete certificate of representation under § 97.313, any representation, action, inaction, or submission by the alternate CAIR designated representative shall be deemed to be a representation, action, inaction, or submission by the CAIR designated representative.

(c) Except in this section and §§ 97.302, 97.310(a) and (d), 97.312, 97.313, 97.315, 97.351, and 97.382, whenever the term ''CAIR designated representative'' is used in subparts AAAA through IIII of this part, the term shall be construed to include the CAIR designated representative or any alternate CAIR designated representative.

§ 97.312 Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.

(a) *Changing CAIR designated representative.* The CAIR designated representative may be changed at any

time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.313. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CAIR designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new CAIR designated representative and the owners and operators of the CAIR NO_X Ozone Season source and the CAIR NO_X Ozone Season units at the source.

(b) *Changing alternate CAIR designated representative.* The alternate CAIR designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.313. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate CAIR designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new alternate CAIR designated representative and the owners and operators of the CAIR NO_X Ozone Season source and the CAIR NO_X Ozone Season units at the source.

(c) *Changes in owners and operators.* (1) In the event an owner or operator of a CAIR NO_X Ozone Season source or a CAIR NO_X Ozone Season unit is not included in the list of owners and operators in the certificate of representation under § 97.313, such owner or operator shall be deemed to be subject to and bound by the certificate of representation, the representations, actions, inactions, and submissions of the CAIR designated representative and any alternate CAIR designated representative of the source or unit, and the decisions and orders of the permitting authority, the Administrator, or a court, as if the owner or operator were included in such list.

(2) Within 30 days following any change in the owners and operators of a CAIR NO_X Ozone Season source or a CAIR NO_X Ozone Season unit, including the addition of a new owner or operator, the CAIR designated representative or any alternate CAIR designated representative shall submit a revision to the certificate of representation under § 97.313 amending the list of owners and operators to include the change.

§ 97.313 Certificate of representation.

(a) A complete certificate of representation for a CAIR designated representative or an alternate CAIR designated representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the CAIR NO_X Ozone Season source, and each CAIR NO_X Ozone Season unit at the source, for which the certificate of representation is submitted, including identification and nameplate capacity of each generator served by each such unit.

(2) The name, address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the CAIR designated representative and any alternate CAIR designated representative.

(3) A list of the owners and operators of the CAIR NO_X Ozone Season source and of each CAIR NO_X Ozone Season unit at the source.

(4) The following certification statements by the CAIR designated representative and any alternate CAIR designated representative—

(i) ''I certify that I was selected as the CAIR designated representative or alternate CAIR designated representative, as applicable, by an agreement binding on the owners and operators of the source and each CAIR NO_X Ozone Season unit at the source.''

(ii) ''I certify that I have all the necessary authority to carry out my duties and responsibilities under the CAIR NO_X Ozone Season Trading Program on behalf of the owners and operators of the source and of each CAIR NO_X Ozone Season unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions.''

(iii) ''I certify that the owners and operators of the source and of each CAIR NO_X Ozone Season unit at the source shall be bound by any order issued to me by the Administrator, the permitting authority, or a court regarding the source or unit.''

(iv) ''Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, a CAIR NO_X Ozone Season unit, or where a utility or industrial customer purchases power from a CAIR NO_X Ozone Season unit under a life-of-the-unit, firm power contractual arrangement, I certify that: I have given a written notice of my selection as the 'CAIR designated representative' or 'alternate CAIR designated representative', as applicable, and of the agreement by which I was selected to each owner and operator of the source and of each CAIR NO_X Ozone Season unit at the source; and CAIR NO_X Ozone Season allowances and proceeds of transactions involving CAIR NO_X Ozone Season allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, except that, if such multiple holders have expressly provided for a different distribution of CAIR NO_X Ozone Season allowances by contract, CAIR NO_X Ozone Season allowances and proceeds of transactions involving CAIR NO_X Ozone Season allowances will be deemed to be held or distributed in accordance with the contract.''

(5) The signature of the CAIR designated representative and any alternate CAIR designated representative and the dates signed.

(b) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the certificate of representation shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

§ 97.314 Objections concerning CAIR designated representative.

(a) Once a complete certificate of representation under § 97.313 has been submitted and received, the permitting authority and the Administrator will rely on the certificate of representation unless and until a superseding complete certificate of representation under § 97.313 is received by the Administrator.

(b) Except as provided in § 97.312(a) or (b), no objection or other communication submitted to the permitting authority or the Administrator concerning the authorization, or any representation, action, inaction, or submission, of the CAIR designated representative shall affect any representation, action, inaction, or submission of the CAIR designated representative or the finality of any decision or order by the permitting authority or the Administrator under the CAIR NO_X Ozone Season Trading Program.

(c) Neither the permitting authority nor the Administrator will adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any CAIR designated representative, including private legal disputes concerning the proceeds of CAIR NO_X Ozone Season allowance transfers.

§ 97.315 Delegation by CAIR designated representative and alternate CAIR designated representative.

(a) A CAIR designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this part.

(b) An alternate CAIR designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this part.

(c) In order to delegate authority to make an electronic submission to the Administrator in accordance with paragraph (a) or (b) of this section, the CAIR designated representative or alternate CAIR designated representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(1) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such CAIR designated representative or alternate CAIR designated representative;

(2) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such

natural person (referred to as an ''agent'');

(3) For each such natural person, a list of the type or types of electronic submissions under paragraph (a) or (b) of this section for which authority is delegated to him or her; and

(4) The following certification statements by such CAIR designated representative or alternate CAIR designated representative:

(i) ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a CAIR designated representative or alternate CAIR designated representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.315(d) shall be deemed to be an electronic submission by me.''

(ii) ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.315(d), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.315 is terminated.''.

(d) A notice of delegation submitted under paragraph (c) of this section shall be effective, with regard to the CAIR designated representative or alternate CAIR designated representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such CAIR designated representative or alternate CAIR designated representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(e) Any electronic submission covered by the certification in paragraph (c)(4)(i) of this section and made in accordance with a notice of delegation effective under paragraph (d) of this section shall be deemed to be an electronic submission by the CAIR designated representative or alternate CAIR designated representative submitting such notice of delegation.

Subpart CCCC—Permits

§ 97.320 General CAIR NO_X Ozone Season Trading Program permit requirements.

(a) For each CAIR NO_X Ozone Season source required to have a title V operating permit or required, under subpart IIII of this part, to have a title V operating permit or other federally enforceable permit, such permit shall include a CAIR permit administered by the permitting authority for the title V operating permit or the federally enforceable permit as applicable. The CAIR portion of the title V permit or other federally enforceable permit as applicable shall be administered in accordance with the permitting authority's title V operating permits regulations promulgated under part 70 or 71 of this chapter or the permitting authority's regulations for other federally enforceable permits as applicable, except as provided otherwise by § 97.305, this subpart, and subpart IIII of this part.

(b) Each CAIR permit shall contain, with regard to the CAIR NO_X Ozone Season source and the CAIR NO_X Ozone Season units at the source covered by the CAIR permit, all applicable CAIR NO_X Ozone Season Trading Program, CAIR NO_X Annual Trading Program, and CAIR SO_2 Trading Program requirements and shall be a complete and separable portion of the title V operating permit or other federally enforceable permit under paragraph (a) of this section.

§ 97.321 Submission of CAIR permit applications.

(a) *Duty to apply*. The CAIR designated representative of any CAIR NO_X Ozone Season source required to have a title V operating permit shall submit to the permitting authority a complete CAIR permit application under § 97.322 for the source covering each CAIR NO_X Ozone Season unit at the source at least 18 months (or such lesser time provided by the permitting authority) before the later of January 1, 2009 or the date on which the CAIR NO_X Ozone Season unit commences commercial operation, except as provided in § 97.383(a).

(b) *Duty to reapply*. For a CAIR NO_X Ozone Season source required to have a

title V operating permit, the CAIR designated representative shall submit a complete CAIR permit application under § 97.322 for the source covering each CAIR NO_X Ozone Season unit at the source to renew the CAIR permit in accordance with the permitting authority's title V operating permits regulations addressing permit renewal, except as provided in § 97.383(b).

§ 97.322 Information requirements for CAIR permit applications.

A complete CAIR permit application shall include the following elements concerning the CAIR NO_X Ozone Season source for which the application is submitted, in a format prescribed by the permitting authority:

(a) Identification of the CAIR NO_X Ozone Season source;

(b) Identification of each CAIR NO_X Ozone Season unit at the CAIR NO_X Ozone Season source; and

(c) The standard requirements under § 97.306.

§ 97.323 CAIR permit contents and term.

(a) Each CAIR permit will contain, in a format prescribed by the permitting authority, all elements required for a complete CAIR permit application under § 97.322.

(b) Each CAIR permit is deemed to incorporate automatically the definitions of terms under § 97.302 and, upon recordation by the Administrator under subpart EEEE, FFFF, GGGG, or IIII of this part, every allocation, transfer, or deduction of a CAIR NO_X Ozone Season allowance to or from the compliance account of the CAIR NO_X Ozone Season source covered by the permit.

(c) The term of the CAIR permit will be set by the permitting authority, as necessary to facilitate coordination of the renewal of the CAIR permit with issuance, revision, or renewal of the CAIR NO_X Ozone Season source's title V operating permit or other federally enforceable permit as applicable.

§ 97.324 CAIR permit revisions.

Except as provided in § 97.323(b), the permitting authority will revise the CAIR permit, as necessary, in accordance with the permitting authority's title V operating permits regulations or the permitting authority's regulations for other federally enforceable permits as applicable addressing permit revisions.

Subpart DDDD [Reserved]

Subpart EEEE—CAIR NO_X Ozone Season Allowance Allocations

§ 97.340 State trading budgets.

(a) Except as provided in paragraph (b) of this section, the State trading budgets for annual allocations of CAIR NO_X Ozone Season allowances for the control periods in 2009 through 2014 and in 2015 and thereafter are respectively as follows:

State	State trading budget for 2009–2014 (tons)	State trading budget for 2015 and thereafter (tons)
Alabama	32,182	26,818
Arkansas	11,515	9,597
Connecticut	2,559	2,559
Delaware	2,226	1,855
District of Columbia	112	94
Florida	47,912	39,926
Illinois	30,701	28,981
Indiana	45,952	39,273
Iowa	14,263	11,886
Kentucky	36,045	30,587
Louisiana	17,085	14,238
Maryland	12,834	10,695
Massachusetts	7,551	6,293
Michigan	28,971	24,142
Mississippi	8,714	7,262
Missouri	26,678	22,231
New Jersey	6,654	5,545
New York	20,632	17,193
North Carolina	28,392	23,660
Ohio	45,664	39,945
Pennsylvania	42,171	35,143
South Carolina	15,249	12,707
Tennessee	22,842	19,035
Virginia	15,994	13,328
West Virginia	26,859	26,525
Wisconsin	17,987	14,989

(b) Upon approval by the Administrator of a State's State implementation plan revision under § 51.123(ee)(1) of this chapter providing for the inclusion in the CAIR NO_X Ozone Season Trading Program of all units that are not otherwise CAIR NO_X Ozone Season units under § 97.304(a) and (b) and that are NO_X Budget units covered by the State's emissions trading program approved under § 51.121(p), the amount in the State trading budget for a control period in a calendar year will be the sum of the amount set forth for the

State and for the year in paragraph (a) of this section and the amount of additional CAIR NO_X Ozone Season allowance allocations issued under § 51.123(ee)(1)(ii)(A) of this chapter for the year.

§ 97.341 Timing requirements for CAIR NO_X Ozone Season allowance allocations.

(a) The Administrator will determine by order the CAIR NO_X Ozone Season allowance allocations, in accordance with § 97.342(a) and (b), for the control periods in 2009, 2010, 2011, 2012, 2013, and 2014.

(b) By July 31, 2011 and July 31 of each year thereafter, the Administrator will determine by order the CAIR NO_X Ozone Season allowance allocations, in accordance with § 97.342(a) and (b), for the control period in the fourth year after the year of the applicable deadline for determination under this paragraph.

(c) By April 30, 2009 and April 30 of each year thereafter, the Administrator will determine by order the CAIR NO_X Ozone Season allowance allocations, in accordance with § 97.342(a), (c), and (d), for the control period in the year of the applicable deadline for determination under this paragraph.

(d) The Administrator will make available to the public each determination of CAIR NO_X Ozone Season allowances under paragraph (a), (b), or (c) of this section and will provide an opportunity for submission of objections to the determination. Objections shall be limited to addressing whether the determination is in accordance with § 97.342. Based on any such objections, the Administrator will adjust each determination to the extent necessary to ensure that it is in accordance with § 97.342.

§ 97.342 CAIR NO_X Ozone Season allowance allocations.

(a)(1) The baseline heat input (in mmBtu) used with respect to CAIR NO_X Ozone Season allowance allocations under paragraph (b) of this section for each CAIR NO_X Ozone Season unit will be:

(i) For units commencing operation before January 1, 2001 the average of the 3 highest amounts of the unit's adjusted control period heat input for 2000 through 2004, with the adjusted control period heat input for each year calculated as follows:

(A) If the unit is coal-fired during the year, the unit's control period heat input for such year is multiplied by 100 percent;

(B) If the unit is oil-fired during the year, the unit's control period heat input for such year is multiplied by 60 percent; and

(C) If the unit is not subject to paragraph (a)(1)(i)(A) or (B) of this section, the unit's control period heat input for such year is multiplied by 40 percent.

(ii) For units commencing operation on or after January 1, 2001 and operating each calendar year during a period of 5 or more consecutive calendar years, the average of the 3 highest amounts of the unit's total converted control period heat input over the first such 5 years.

(2)(i) A unit's control period heat input, and a unit's status as coal-fired or oil-fired, for a calendar year under paragraph (a)(1)(i) of this section, and a unit's total tons of NO_X emissions during a control period in a calendar year under paragraph (c)(3) of this section, will be determined in accordance with part 75 of this chapter, to the extent the unit was otherwise subject to the requirements of part 75 of this chapter for the year, or will be based on the best available data reported to the Administrator for the unit (in a format prescribed by the Administrator), to the extent the unit was not otherwise subject to the requirements of part 75 of this chapter for the year.

(ii) A unit's converted control period heat input for a calendar year specified under paragraph (a)(1)(ii) of this section equals:

(A) Except as provided in paragraph (a)(2)(ii)(B) or (C) of this section, the control period gross electrical output of the generator or generators served by the unit multiplied by 7,900 Btu/kWh, if the unit is coal-fired for the year, or 6,675 Btu/kWh, if the unit is not coal-fired for the year, and divided by 1,000,000 Btu/mmBtu, provided that if a generator is served by 2 or more units, then the gross electrical output of the generator will be attributed to

each unit in proportion to the unit's share of the total control period heat input of such units for the year;

(B) For a unit that is a boiler and has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the total heat energy (in Btu) of the steam produced by the boiler during the control period, divided by 0.8 and by 1,000,000 Btu/mmBtu; or

(C) For a unit that is a combustion turbine and has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the control period gross electrical output of the enclosed device comprising the compressor, combustor, and turbine multiplied by 3,413 Btu/kWh, plus the total heat energy (in Btu) of the steam produced by any associated heat recovery steam generator during the control period divided by 0.8, and with the sum divided by 1,000,000 Btu/mmBtu.

(iii) Gross electrical output and total heat energy under paragraph (a)(2)(ii) of this section will be determined based on the best available data reported to the Administrator for the unit (in a format prescribed by the Administrator).

(3) The Administrator will determine what data are the best available data under paragraph (a)(2) of this section by weighing the likelihood that data are accurate and reliable and giving greater weight to data submitted to a governmental entity in compliance with legal requirements or substantiated by an independent entity.

(b)(1) For each control period in 2009 and thereafter, the Administrator will allocate to all CAIR NO_X Ozone Season units in a State that have a baseline heat input (as determined under paragraph (a) of this section) a total amount of CAIR NO_X Ozone Season allowances equal to 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the tons of NO_X emissions in the applicable State trading budget under § 97.340 (except as provided in paragraphs (d) and (e) of this section).

(2) The Administrator will allocate CAIR NO_X Ozone Season allowances to each CAIR NO_X Ozone Season unit under paragraph (b)(1) of this section in an amount determined by multiplying the total amount of CAIR NO_X Ozone Season allowances allocated under paragraph (b)(1) of this section by the ratio of the baseline heat input of such CAIR NO_X Ozone Season unit to the total amount of baseline heat input of all such CAIR NO_X Ozone Season units in the State and rounding to the nearest whole allowance as appropriate.

(c) For each control period in 2009 and thereafter, the Administrator will allocate CAIR NO_X Ozone Season allowances to CAIR NO_X Ozone Season units in a State that are not allocated CAIR NO_X Ozone Season allowances under paragraph (b) of this section because the units do not yet have a baseline heat input under paragraph (a) of this section or because the units have a baseline heat input but all CAIR NO_X Ozone Season allowances available under paragraph (b) of this section for the control period are already allocated, in accordance with the following procedures:

(1) The Administrator will establish a separate new unit set-aside for each control period. Each new unit set-aside will be allocated CAIR NO_X Ozone Season allowances equal to 5 percent for a control period in 2009 through 2014, and 3 percent for a control period in 2015 and thereafter, of the amount of tons of NO_X emissions in the applicable State trading budget under § 97.340.

(2) The CAIR designated representative of such a CAIR NO_X Ozone Season unit may submit to the Administrator a request, in a format specified by the Administrator, to be allocated CAIR NO_X Ozone Season allowances, starting with the later of the control period in 2009 or the first control period after the control period in which the CAIR NO_X Ozone Season unit commences commercial operation and until the first control period for which the unit is allocated CAIR NO_X Ozone Season allowances under paragraph (b) of this section. A separate CAIR NO_X Ozone Season allowance allocation request for each control period for which CAIR NO_X Ozone Season allowances are sought must be submitted on or before

February 1 before such control period and after the date on which the CAIR NO_X Ozone Season unit commences commercial operation.

(3) In a CAIR NO_X Ozone Season allowance allocation request under paragraph (c)(2) of this section, the CAIR designated representative may request for a control period CAIR NO_X Ozone Season allowances in an amount not exceeding the CAIR NO_X Ozone Season unit(s total tons of NO_X emissions during the control period immediately before such control period.

(4) The Administrator will review each CAIR NO_X Ozone Season allowance allocation request under paragraph (c)(2) of this section and will allocate CAIR NO_X Ozone Season allowances for each control period pursuant to such request as follows:

(i) The Administrator will accept an allowance allocation request only if the request meets, or is adjusted by the Administrator as necessary to meet, the requirements of paragraphs (c)(2) and (3) of this section.

(ii) On or after February 1 before the control period, the Administrator will determine the sum of the CAIR NO_X Ozone Season allowances requested (as adjusted under paragraph (c)(4)(i) of this section) in all allowance allocation requests accepted under paragraph (c)(4)(i) of this section for the control period.

(iii) If the amount of CAIR NO_X Ozone Season allowances in the new unit set-aside for the control period is greater than or equal to the sum under paragraph (c)(4)(ii) of this section, then the Administrator will allocate the amount of CAIR NO_X Ozone Season allowances requested (as adjusted under paragraph (c)(4)(i) of this section) to each CAIR NO_X Ozone Season unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section.

(iv) If the amount of CAIR NO_X Ozone Season allowances in the new unit set-aside for the control period is less than the sum under paragraph (c)(4)(ii) of this section, then the Administrator will allocate to each CAIR NO_X Ozone Season unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section the amount of the CAIR NO_X Ozone Season allowances requested (as adjusted under paragraph (c)(4)(i) of this section), multiplied by the amount of CAIR NO_X Ozone Season allowances in the new unit set-aside for the control period, divided by the sum determined under paragraph (c)(4)(ii) of this section, and rounded to the nearest whole allowance as appropriate.

(v) The Administrator will notify each CAIR designated representative that submitted an allowance allocation request of the amount of CAIR NO_X Ozone Season allowances (if any) allocated for the control period to the CAIR NO_X Ozone Season unit covered by the request.

(d) If, after completion of the procedures under paragraph (c)(4) of this section for a control period, any unallocated CAIR NO_X Ozone Season allowances remain in the new unit set-aside under paragraph (c) of this section for a State for the control period, the Administrator will allocate to each CAIR NO_X Ozone Season unit that was allocated CAIR NO_X Ozone Season allowances under paragraph (b) of this section in the State an amount of CAIR NO_X Ozone Season allowances equal to the total amount of such remaining unallocated CAIR NO_X Ozone Season allowances, multiplied by the unit's allocation under paragraph (b) of this section, divided by 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the amount of tons of NO_X emissions in the applicable State trading budget under § 97.340, and rounded to the nearest whole allowance as appropriate.

(e) If the Administrator determines that CAIR NO_X Ozone Season allowances were allocated under paragraphs (a) and (b) of this section, paragraphs (a) and (c) of this section, or paragraph (d) of this section for a control period and that the recipient of the allocation is not actually a CAIR NO_X Ozone Season unit under § 97.304 in such control period, then the Administrator will notify the CAIR designated representative and will act in accordance with the following procedures:

(1) Except as provided in paragraph (e)(2) or (3) of this section, the Administrator will not record such CAIR NO_X Ozone Season allowances under § 97.353.

(2) If the Administrator already recorded such CAIR NO_X Ozone Season allowances under § 97.353 and if the Administrator makes such determinations before making deductions for the source that includes such recipient under § 97.354(b) for the control period, then the Administrator will deduct from the account in which such CAIR NO_X Ozone Season allowances were recorded under § 97.353 an amount of CAIR NO_X Ozone Season allowances allocated for the same or a prior control period equal to the amount of such already recorded CAIR NO_X Ozone Season allowances. The CAIR designated representative shall ensure that there are sufficient CAIR NO_X Ozone Season allowances in such account for completion of the deduction.

(3) If the Administrator already recorded such CAIR NO_X Ozone Season allowances under § 97.353 and if the Administrator makes such determinations after making deductions for the source that includes such recipient under § 97.354(b) for the control period, then the Administrator will apply paragraph (e)(1) or (2) of this section, as appropriate, to any subsequent control period for which CAIR NO_X Ozone Season allowances were allocated to such recipient.

(4) The Administrator will transfer the CAIR NO_X Ozone Season allowances that are not recorded, or that are deducted, in accordance with paragraphs (e)(1), (2), and (3) of this section to a new unit set-aside for the State in which such recipient is located.

§ 97.343 Alternative of allocation of CAIR NO_X Ozone Season allowances by permitting authority.

(a) Notwithstanding §§ 97.341, 97.342, and 97.353 if a State submits, and the Administrator approves, a State implementation plan revision in accordance with § 51.123(ee)(2) of this chapter providing for allocation of CAIR NO_X Ozone Season allowances by the permitting authority, then the permitting authority shall make such allocations in accordance with such approved State implementation plan revision, the Administrator will not make allocations under §§ 97.341 and 97.342 for the CAIR NO_X Ozone Season units in the State, and under § 97.353, the Administrator will record allocations made under such approved State implementation plan revision instead of allocations under §§ 97.341 and 97.342.

(b) In implementing paragraph (a) of this section and §§ 97.341, 97.342, and 97.353, the Administrator will ensure that the total amount of CAIR NO_X Ozone Season allowances allocated, under such provisions and under a State's State implementation plan revision approved in accordance with § 51.123(ee)(2) of this chapter, for a control period for CAIR NO_X Ozone Season sources in the State or for other entities specified by the permitting authority will not exceed the State's State trading budget for the year of the control period.

APPENDIX A TO SUBPART EEEE OF PART 97—STATES WITH APPROVED STATE IMPLEMENTATION PLAN REVISIONS CONCERNING ALLOCATIONS

The following States have State Implementation Plan revisions under § 51.123(ee)(2) of this chapter approved by the Administrator and providing for allocation of CAIR NO_X Ozone Season allowances by the permitting authority under § 97.343(a):

Indiana
Louisiana
Michigan
New Jersey
North Carolina
Ohio
South Carolina
Tennessee
West Virginia (for control periods 2009–2014)
Wisconsin

[65 FR 2727, Jan. 18, 2000, as amended at 72 FR 46394, Aug. 20, 2007; 72 FR 52293, Sept. 13, 2007; 72 FR 55068, Sept. 28, 2007; 72 FR 55659, 55672, Oct. 1, 2007; 72 FR 56920, Oct. 5, 2007; 72 FR 57215, Oct. 9, 2007; 72 FR 58546, Oct. 16, 2007; 72 FR 59487, Oct. 22, 2007; 72 FR 71579, Dec. 18, 2007; 72 FR 72263, Dec. 20, 2007; 73 FR 6041, Feb. 1, 2008]

Subpart FFFF—CAIR NO_X Ozone Season Allowance Tracking System

§ 97.350 [Reserved]

§ 97.351 Establishment of accounts.

(a) *Compliance accounts.* Except as provided in § 97.384(e), upon receipt of a complete certificate of representation under § 97.313, the Administrator will establish a compliance account for the

CAIR NO_X Ozone Season source for which the certificate of representation was submitted, unless the source already has a compliance account.

(b) *General accounts*—(1) *Application for general account*. (i) Any person may apply to open a general account for the purpose of holding and transferring CAIR NO_X Ozone Season allowances. An application for a general account may designate one and only one CAIR authorized account representative and one and only one alternate CAIR authorized account representative who may act on behalf of the CAIR authorized account representative. The agreement by which the alternate CAIR authorized account representative is selected shall include a procedure for authorizing the alternate CAIR authorized account representative to act in lieu of the CAIR authorized account representative.

(ii) A complete application for a general account shall be submitted to the Administrator and shall include the following elements in a format prescribed by the Administrator:

(A) Name, mailing address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the CAIR authorized account representative and any alternate CAIR authorized account representative;

(B) Organization name and type of organization, if applicable;

(C) A list of all persons subject to a binding agreement for the CAIR authorized account representative and any alternate CAIR authorized account representative to represent their ownership interest with respect to the CAIR NO_X Ozone Season allowances held in the general account;

(D) The following certification statement by the CAIR authorized account representative and any alternate CAIR authorized account representative: ''I certify that I was selected as the CAIR authorized account representative or the alternate CAIR authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to CAIR NO_X Ozone Season allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the CAIR NO_X Ozone Season Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any order or decision issued to me by the Administrator or a court regarding the general account.''

(E) The signature of the CAIR authorized account representative and any alternate CAIR authorized account representative and the dates signed.

(iii) Unless otherwise required by the permitting authority or the Administrator, documents of agreement referred to in the application for a general account shall not be submitted to the permitting authority or the Administrator. Neither the permitting authority nor the Administrator shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) *Authorization of CAIR authorized account representative and alternate CAIR authorized account representative*. (i) Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section:

(A) The Administrator will establish a general account for the person or persons for whom the application is submitted.

(B) The CAIR authorized account representative and any alternate CAIR authorized account representative for the general account shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to CAIR NO_X Ozone Season allowances held in the general account in all matters pertaining to the CAIR NO_X Ozone Season Trading Program, notwithstanding any agreement between the CAIR authorized account representative or any alternate CAIR authorized account representative and such person. Any such person shall be bound by any order or decision issued to the CAIR authorized account representative or any alternate CAIR authorized account representative by the Administrator or a court regarding the general account.

(C) Any representation, action, inaction, or submission by any alternate

CAIR authorized account representative shall be deemed to be a representation, action, inaction, or submission by the CAIR authorized account representative.

(ii) Each submission concerning the general account shall be submitted, signed, and certified by the CAIR authorized account representative or any alternate CAIR authorized account representative for the persons having an ownership interest with respect to CAIR NO_X Ozone Season allowances held in the general account. Each such submission shall include the following certification statement by the CAIR authorized account representative or any alternate CAIR authorized account representative: ''I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the CAIR NO_X Ozone Season allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(iii) The Administrator will accept or act on a submission concerning the general account only if the submission has been made, signed, and certified in accordance with paragraph (b)(2)(ii) of this section.

(3) *Changing CAIR authorized account representative and alternate CAIR authorized account representative; changes in persons with ownership interest.* (i) The CAIR authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CAIR authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new CAIR authorized account representative and the persons with an ownership interest with respect to the CAIR NO_X Ozone Season allowances in the general account.

(ii) The alternate CAIR authorized account representative for a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (b)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate CAIR authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate CAIR authorized account representative and the persons with an ownership interest with respect to the CAIR NO_X Ozone Season allowances in the general account.

(iii)(A) In the event a person having an ownership interest with respect to CAIR NO_X Ozone Season allowances in the general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representation, actions, inactions, and submissions of the CAIR authorized account representative and any alternate CAIR authorized account representative of the account, and the decisions and orders of the Administrator or a court, as if the person were included in such list.

(B) Within 30 days following any change in the persons having an ownership interest with respect to CAIR NO_X Ozone Season allowances in the general account, including the addition of a new person, the CAIR authorized account representative or any alternate CAIR authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the CAIR NO_X Ozone Season allowances in the general account to include the change.

(4) *Objections concerning CAIR authorized account representative and alternate CAIR authorized account representative.* (i) Once a complete application for a general account under paragraph (b)(1) of this section has been submitted and received, the Administrator will rely on the application unless and until a superseding complete application for a general account under paragraph (b)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (b)(3)(i) or (ii) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative for a general account shall affect any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative or the finality of any decision or order by the Administrator under the CAIR NO_X Ozone Season Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the CAIR authorized account representative or any alternate CAIR authorized account representative for a general account, including private legal disputes concerning the proceeds of CAIR NO_X Ozone Season allowance transfers.

(5) *Delegation by CAIR authorized account representative and alternate CAIR authorized account representative.* (i) A CAIR authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under subparts FFFF and GGGG of this part.

(ii) An alternate CAIR authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under subparts FFFF and GGGG of this part.

(iii) In order to delegate authority to make an electronic submission to the Administrator in accordance with paragraph (b)(5)(i) or (ii) of this section, the CAIR authorized account representative or alternate CAIR authorized account representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(A) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such CAIR authorized account representative or alternate CAIR authorized account representative;

(B) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to as an ''agent'');

(C) For each such natural person, a list of the type or types of electronic submissions under paragraph (b)(5)(i) or (ii) of this section for which authority is delegated to him or her;

(D) The following certification statement by such CAIR authorized account representative or alternate CAIR authorized account representative: ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a CAIR authorized account representative or alternate CAIR authorized representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.351(b)(5)(iv) shall be deemed to be an electronic submission by me.''; and

(E) The following certification statement by such CAIR authorized account representative or alternate CAIR authorized account representative: Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.351(b)(5)(iv), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.351(b)(5) is terminated.''.

(iv) A notice of delegation submitted under paragraph (b)(5)(iii) of this section shall be effective, with regard to

the CAIR authorized account representative or alternate CAIR authorized account representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such CAIR authorized account representative or alternate CAIR authorized account representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(v) Any electronic submission covered by the certification in paragraph (b)(5)(iii)(D) of this section and made in accordance with a notice of delegation effective under paragraph (b)(5)(iv) of this section shall be deemed to be an electronic submission by the CAIR designated representative or alternate CAIR designated representative submitting such notice of delegation.

(c) *Account identification.* The Administrator will assign a unique identifying number to each account established under paragraph (a) or (b) of this section.

§ 97.352 Responsibilities of CAIR authorized account representative.

Following the establishment of a CAIR NO_X Ozone Season Allowance Tracking System account, all submissions to the Administrator pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of CAIR NO_X Ozone Season allowances in the account, shall be made only by the CAIR authorized account representative for the account.

§ 97.353 Recordation of CAIR NO_X Ozone Season allowance allocations.

(a) By September 30, 2007, the Administrator will record in the CAIR NO_X Ozone Season sources compliance account the CAIR NO_X Ozone Season allowances allocated for the CAIR NO_X Ozone Season units at the source in accordance with § 97.342(a) and (b) for the control period in 2009.

(b) By September 30, 2008, the Administrator will record in the CAIR NO_X Ozone Season source's compliance account the CAIR NO_X Ozone Season allowances allocated for the CAIR NO_X Ozone Season units at the source in accordance with § 97.342(a) and (b) for the control period in 2010.

(c) By September 30, 2009, the Administrator will record in the CAIR NO_X Ozone Season source's compliance account the CAIR Ozone Season NO_X allowances allocated for the CAIR NO_X Ozone Season units at the source in accordance with § 97.342(a) and (b) for the control periods in 2011, 2012, and 2013.

(d) By December 1, 2010 and December 1 of each year thereafter, the Administrator will record in the CAIR NO_X Ozone Season source's compliance account the CAIR NO_X Ozone Season allowances allocated for the CAIR NO_X Ozone Season units at the source in accordance with § 97.342(a) and (b) for the control period in the fourth year after the year of the applicable deadline for recordation under this paragraph.

(e) By September 1, 2009 and September 1 of each year thereafter, the Administrator will record in the CAIR NO_X Ozone Season source's compliance account the CAIR NO_X Ozone Season allowances allocated for the CAIR NO_X Ozone Season units at the source in accordance with § 97.342(a) and (c) for the control period in the year of the applicable deadline for recordation under this paragraph.

(f) *Serial numbers for allocated CAIR NO_X Ozone Season allowances.* When recording the allocation of CAIR NO_X Ozone Season allowances for a CAIR NO_X Ozone Season unit in a compliance account, the Administrator will assign each CAIR NO_X Ozone Season allowance a unique identification number that will include digits identifying the year of the control period for which the CAIR NO_X Ozone Season allowance is allocated.

§ 97.354 Compliance with CAIR NO_X emissions limitation.

(a) *Allowance transfer deadline.* The CAIR NO_X Ozone Season allowances are available to be deducted for compliance with a source's CAIR NO_X Ozone Season emissions limitation for a control period in a given calendar year only if the CAIR NO_X Ozone Season allowances:

(1) Were allocated for the control period in the year or a prior year; and

(2) Are held in the compliance account as of the allowance transfer deadline for the control period or are transferred into the compliance account by a CAIR NO_X Ozone Season allowance transfer correctly submitted for recordation under §§ 97.360 and 97.361 by the allowance transfer deadline for the control period.

(b) *Deductions for compliance*. Following the recordation, in accordance with § 97.361, of CAIR NO_X Ozone Season allowance transfers submitted for recordation in a source's compliance account by the allowance transfer deadline for a control period, the Administrator will deduct from the compliance account CAIR NO_X Ozone Season allowances available under paragraph (a) of this section in order to determine whether the source meets the CAIR NO_X Ozone Season emissions limitation for the control period, as follows:

(1) Until the amount of CAIR NO_X Ozone Season allowances deducted equals the number of tons of total nitrogen oxides emissions, determined in accordance with subpart HHHH of this part, from all CAIR NO_X Ozone Season units at the source for the control period; or

(2) If there are insufficient CAIR NO_X Ozone Season allowances to complete the deductions in paragraph (b)(1) of this section, until no more CAIR NO_X Ozone Season allowances available under paragraph (a) of this section remain in the compliance account.

(c)(1) *Identification of CAIR NO_X Ozone Season allowances by serial number*. The CAIR authorized account representative for a source's compliance account may request that specific CAIR NO_X Ozone Season allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period in accordance with paragraph (b) or (d) of this section. Such request shall be submitted to the Administrator by the allowance transfer deadline for the control period and include, in a format prescribed by the Administrator, the identification of the CAIR NO_X Ozone Season source and the appropriate serial numbers.

(2) *First-in, first-out*. The Administrator will deduct CAIR NO_X Ozone Season allowances under paragraph (b) or (d) of this section from the source's compliance account, in the absence of an identification or in the case of a partial identification of CAIR NO_X Ozone Season allowances by serial number under paragraph (c)(1) of this section, on a first-in, first-out (FIFO) accounting basis in the following order:

(i) Any CAIR NO_X Ozone Season allowances that were allocated to the units at the source, in the order of recordation; and then

(ii) Any CAIR NO_X Ozone Season allowances that were allocated to any entity and transferred and recorded in the compliance account pursuant to subpart GGGG of this part, in the order of recordation.

(d) *Deductions for excess emissions*. (1) After making the deductions for compliance under paragraph (b) of this section for a control period in a calendar year in which the CAIR NO_X Ozone Season source has excess emissions, the Administrator will deduct from the source's compliance account an amount of CAIR NO_X Ozone Season allowances, allocated for the control period in the immediately following calendar year, equal to 3 times the number of tons of the source's excess emissions.

(2) Any allowance deduction required under paragraph (d)(1) of this section shall not affect the liability of the owners and operators of the CAIR NO_X Ozone Season source or the CAIR NO_X Ozone Season units at the source for any fine, penalty, or assessment, or their obligation to comply with any other remedy, for the same violations, as ordered under the Clean Air Act or applicable State law.

(e) *Recordation of deductions*. The Administrator will record in the appropriate compliance account all deductions from such an account under paragraphs (b) and (d) of this section and subpart IIII.

(f) *Administrator(s action on submissions*. (1) The Administrator may review and conduct independent audits concerning any submission under the CAIR NO_X Ozone Season Trading Program and make appropriate adjustments of the information in the submissions.

(2) The Administrator may deduct CAIR NO_X Ozone Season allowances

from or transfer CAIR NO_X Ozone Season allowances to a source's compliance account based on the information in the submissions, as adjusted under paragraph (f)(1) of this section, and record such deductions and transfers.

§ 97.355 Banking.

(a) CAIR NO_X Ozone Season allowances may be banked for future use or transfer in a compliance account or a general account in accordance with paragraph (b) of this section.

(b) Any CAIR NO_X Ozone Season allowance that is held in a compliance account or a general account will remain in such account unless and until the CAIR NO_X Ozone Season allowance is deducted or transferred under § 97.342, § 97.354, § 97.356, or subpart GGGG or IIII of this part.

§ 97.356 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any CAIR NO_X Ozone Season Allowance Tracking System account. Within 10 business days of making such correction, the Administrator will notify the CAIR authorized account representative for the account.

§ 97.357 Closing of general accounts.

(a) The CAIR authorized account representative of a general account may submit to the Administrator a request to close the account, which shall include a correctly submitted allowance transfer under §§ 97.360 and 97.361 for any CAIR NO_X Ozone Season allowances in the account to one or more other CAIR NO_X Ozone Season Allowance Tracking System accounts.

(b) If a general account has no allowance transfers in or out of the account for a 12-month period or longer and does not contain any CAIR NO_X Ozone Season allowances, the Administrator may notify the CAIR authorized account representative for the account that the account will be closed following 20 business days after the notice is sent. The account will be closed after the 20-day period unless, before the end of the 20-day period, the Administrator receives a correctly submitted transfer of CAIR NO_X Ozone Season allowances into the account under §§ 97.360 and 97.361 or a statement submitted by the CAIR authorized account representative demonstrating to the satisfaction of the Administrator good cause as to why the account should not be closed.

Subpart GGGG—CAIR NO_X Ozone Season Allowance Transfers

§ 97.360 Submission of CAIR NO_X Ozone Season allowance transfers.

A CAIR authorized account representative seeking recordation of a CAIR NO_X Ozone Season allowance transfer shall submit the transfer to the Administrator. To be considered correctly submitted, the CAIR NO_X Ozone Season allowance transfer shall include the following elements, in a format specified by the Administrator:

(a) The account numbers for both the transferor and transferee accounts;

(b) The serial number of each CAIR NO_X Ozone Season allowance that is in the transferor account and is to be transferred; and

(c) The name and signature of the CAIR authorized account representative of the transferor account and the date signed.

§ 97.361 EPA recordation.

(a) Within 5 business days (except as provided in paragraph (b) of this section) of receiving a CAIR NO_X Ozone Season allowance transfer, the Administrator will record a CAIR NO_X Ozone Season allowance transfer by moving each CAIR NO_X Ozone Season allowance from the transferor account to the transferee account as specified by the request, provided that:

(1) The transfer is correctly submitted under § 97.360; and

(2) The transferor account includes each CAIR NO_X Ozone Season allowance identified by serial number in the transfer.

(b) A CAIR NO_X Ozone Season allowance transfer that is submitted for recordation after the allowance transfer deadline for a control period and that includes any CAIR NO_X Ozone Season allowances allocated for any control period before such allowance transfer deadline will not be recorded until after the Administrator completes the deductions under § 97.354 for the control

period immediately before such allowance transfer deadline.

(c) Where a CAIR NO_X Ozone Season allowance transfer submitted for recordation fails to meet the requirements of paragraph (a) of this section, the Administrator will not record such transfer.

§ 97.362 Notification.

(a) *Notification of recordation.* Within 5 business days of recordation of a CAIR NO_X Ozone Season allowance transfer under § 97.361, the Administrator will notify the CAIR authorized account representatives of both the transferor and transferee accounts.

(b) *Notification of non-recordation.* Within 10 business days of receipt of a CAIR NO_X Ozone Season allowance transfer that fails to meet the requirements of § 97.361(a), the Administrator will notify the CAIR authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer, and

(2) The reasons for such non-recordation.

(c) Nothing in this section shall preclude the submission of a CAIR NO_X Ozone Season allowance transfer for recordation following notification of non-recordation.

Subpart HHHH—Monitoring and Reporting

§ 97.370 General requirements.

The owners and operators, and to the extent applicable, the CAIR designated representative, of a CAIR NO_X Ozone Season unit, shall comply with the monitoring, recordkeeping, and reporting requirements as provided in this subpart and in subpart H of part 75 of this chapter. For purposes of complying with such requirements, the definitions in § 97.302 and in § 72.2 of this chapter shall apply, and the terms ''affected unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') in part 75 of this chapter shall be deemed to refer to the terms ''CAIR NO_X Ozone Season unit,'' ''CAIR designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') respectively, as defined in § 97.302. The owner or operator of a unit that is not a CAIR NO_X Ozone Season unit but that is monitored under § 75.72(b)(2)(ii) of this chapter shall comply with the same monitoring, recordkeeping, and reporting requirements as a CAIR NO_X Ozone Season unit.

(a) *Requirements for installation, certification, and data accounting.* The owner or operator of each CAIR NO_X Ozone Season unit shall:

(1) Install all monitoring systems required under this subpart for monitoring NO_X mass emissions and individual unit heat input (including all systems required to monitor NO_X emission rate, NO_X concentration, stack gas moisture content, stack gas flow rate, CO_2 or O_2 concentration, and fuel flow rate, as applicable, in accordance with §§ 75.71 and 75.72 of this chapter);

(2) Successfully complete all certification tests required under § 97.371 and meet all other requirements of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraph (a)(1) of this section; and

(3) Record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section.

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the following dates. The owner or operator shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the following dates.

(1) For the owner or operator of a CAIR NO_X Ozone Season unit that commences commercial operation before July 1, 2007, by May 1, 2008.

(2) For the owner or operator of a CAIR NO_X Ozone Season unit that commences commercial operation on or after July 1, 2007 and that reports on an annual basis under § 97.374(d), by the later of the following dates:

(i) 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which the unit commences commercial operation; or

(ii) May 1, 2008.

(3) For the owner or operator of a CAIR NO_X Ozone Season unit that commences commercial operation on or after July 1, 2007 and that reports on a control period basis under § 97.374(d)(2)(ii), by the later of the following dates:

(i) 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which the unit commences commercial operation; or

(ii) If the compliance date under paragraph (b)(3)(i) of this section is not during a control period, May 1 immediately following the compliance date under paragraph (b)(3)(i) of this section.

(4) For the owner or operator of a CAIR NO_X Ozone Season unit for which construction of a new stack or flue or installation of add-on NO_X emission controls is completed after the applicable deadline under paragraph (b)(1), (2), (6), or (7) of this section and that reports on an annual basis under § 97.374(d), by 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which emissions first exit to the atmosphere through the new stack or flue or add-on NO_X emissions controls.

(5) For the owner or operator of a CAIR NO_X Ozone Season unit for which construction of a new stack or flue or installation of add-on NO_X emission controls is completed after the applicable deadline under paragraph (b)(1), (3), (6), or (7) of this section and that reports on a control period basis under § 97.374(d)(2)(ii), by the later of the following dates:

(i) 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which emissions first exit to the atmosphere through the new stack or flue or add-on NO_X emissions controls; or

(ii) If the compliance date under paragraph (b)(5)(i) of this section is not during a control period, May 1 immediately following the compliance date under paragraph (b)(5)(i) of this section.

(6) Notwithstanding the dates in paragraphs (b)(1), (2), and (3) of this section, for the owner or operator of a unit for which a CAIR NO_X Ozone Season opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart IIII of this part, by the date specified in § 97.384(b).

(7) Notwithstanding the dates in paragraphs (b)(1), (2), and (3) of this section, for the owner or operator of a CAIR NO_X Ozone Season opt-in unit under subpart IIII of this part, by the date on which the CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program as provided in § 97.384(g).

(c) *Reporting data.* The owner or operator of a CAIR NO_X Ozone Season unit that does not meet the applicable compliance date set forth in paragraph (b) of this section for any monitoring system under paragraph (a)(1) of this section shall, for each such monitoring system, determine, record, and report maximum potential (or, as appropriate, minimum potential) values for NO_X concentration, NO_X emission rate, stack gas flow rate, stack gas moisture content, fuel flow rate, and any other parameters required to determine NO_X mass emissions and heat input in accordance with § 75.31(b)(2) or (c)(3) of this chapter, section 2.4 of appendix D to part 75 of this chapter, or section 2.5 of appendix E to part 75 of this chapter, as applicable.

(d) *Prohibitions.* (1) No owner or operator of a CAIR NO_X Ozone Season unit shall use any alternative monitoring system, alternative reference method, or any other alternative to any requirement of this subpart without having obtained prior written approval in accordance with § 97.375.

(2) No owner or operator of a CAIR NO_X Ozone Season unit shall operate the unit so as to discharge, or allow to be discharged, NO_X emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(3) No owner or operator of a CAIR NO_X Ozone Season unit shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording NO_X mass emissions discharged into the atmosphere or heat input, except for periods of recertification or periods when calibration,

quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(4) No owner or operator of a CAIR NO_X Ozone Season unit shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by an exemption under § 97.305 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the Administrator for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The CAIR designated representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with § 97.371(d)(3)(i).

(e) *Long-term cold storage.* The owner or operator of a CAIR NO_X Ozone Season unit is subject to the applicable provisions of part 75 of this chapter concerning units in long-term cold storage.

§ 97.371 Initial certification and recertification procedures.

(a) The owner or operator of a CAIR NO_X Ozone Season unit shall be exempt from the initial certification requirements of this section for a monitoring system under § 97.370(a)(1) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with part 75 of this chapter; and

(2) The applicable quality-assurance and quality-control requirements of § 75.21 of this chapter and appendix B, appendix D, and appendix E to part 75 of this chapter are fully met for the certified monitoring system described in paragraph (a)(1) of this section.

(b) The recertification provisions of this section shall apply to a monitoring system under § 97.370(a)(1) exempt from initial certification requirements under paragraph (a) of this section.

(c) If the Administrator has previously approved a petition under § 75.17(a) or (b) of this chapter for apportioning the NO_X emission rate measured in a common stack or a petition under § 75.66 of this chapter for an alternative to a requirement in § 75.12 or § 75.17 of this chapter, the CAIR designated representative shall resubmit the petition to the Administrator under § 97.375 to determine whether the approval applies under the CAIR NO_X Ozone Season Trading Program.

(d) Except as provided in paragraph (a) of this section, the owner or operator of a CAIR NO_X Ozone Season unit shall comply with the following initial certification and recertification procedures for a continuous monitoring system (*i.e.*, a continuous emission monitoring system and an excepted monitoring system under appendices D and E to part 75 of this chapter) under § 97.370(a)(1). The owner or operator of a unit that qualifies to use the low mass emissions excepted monitoring methodology under § 75.19 of this chapter or that qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall comply with the procedures in paragraph (e) or (f) of this section respectively.

(1) *Requirements for initial certification.* The owner or operator shall ensure that each continuous monitoring system under § 97.370(a)(1) (including the automated data acquisition and handling system) successfully completes all of the initial certification testing required under § 75.20 of this chapter by the applicable deadline in § 97.370(b). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this subpart in a location where no such monitoring system was previously installed, initial certification in accordance with § 75.20 of this chapter is required.

(2) *Requirements for recertification.* Whenever the owner or operator makes a replacement, modification, or change in any certified continuous emission monitoring system under § 97.370(a)(1) that may significantly affect the ability of the system to accurately measure or record NO_X mass emissions or

heat input rate or to meet the quality-assurance and quality-control requirements of § 75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the monitoring system in accordance with § 75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify each continuous emission monitoring system whose accuracy is potentially affected by the change, in accordance with § 75.20(b) of this chapter. Examples of changes to a continuous emission monitoring system that require recertification include: replacement of the analyzer, complete replacement of an existing continuous emission monitoring system, or change in location or orientation of the sampling probe or site. Any fuel flowmeter systems, and any excepted NO_X monitoring system under appendix E to part 75 of this chapter, under § 97.370(a)(1) are subject to the recertification requirements in § 75.20(g)(6) of this chapter.

(3) *Approval process for initial certification and recertification.* Paragraphs (d)(3)(i) through (iv) of this section apply to both initial certification and recertification of a continuous monitoring system under § 97.370(a)(1). For recertifications, replace the words ''certification'' and ''initial certification'' with the word ''recertification'', replace the word ''certified'' with the word ''recertified,'' and follow the procedures in §§ 75.20(b)(5) and (g)(7) of this chapter in lieu of the procedures in paragraph (d)(3)(v) of this section.

(i) *Notification of certification.* The CAIR designated representative shall submit to the appropriate EPA Regional Office and the Administrator written notice of the dates of certification testing, in accordance with § 97.373.

(ii) *Certification application.* The CAIR designated representative shall submit to the Administrator a certification application for each monitoring system. A complete certification application shall include the information specified in § 75.63 of this chapter.

(iii) *Provisional certification date.* The provisional certification date for a monitoring system shall be determined in accordance with § 75.20(a)(3) of this chapter. A provisionally certified monitoring system may be used under the CAIR NO_X Ozone Season Trading Program for a period not to exceed 120 days after receipt by the Administrator of the complete certification application for the monitoring system under paragraph (d)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the Administrator does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of the date of receipt of the complete certification application by the Administrator.

(iv) *Certification application approval process.* The Administrator will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under paragraph (d)(3)(ii) of this section. In the event the Administrator does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the CAIR NO_X Ozone Season Trading Program.

(A) *Approval notice.* If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of part 75 of this chapter, then the Administrator will issue a written notice of approval of the certification application within 120 days of receipt.

(B) *Incomplete application notice.* If the certification application is not complete, then the Administrator will issue a written notice of incompleteness that sets a reasonable date by

which the CAIR designated representative must submit the additional information required to complete the certification application. If the CAIR designated representative does not comply with the notice of incompleteness by the specified date, then the Administrator may issue a notice of disapproval under paragraph (d)(3)(iv)(C) of this section. The 120-day review period shall not begin before receipt of a complete certification application.

(C) *Disapproval notice.* If the certification application shows that any monitoring system does not meet the performance requirements of part 75 of this chapter or if the certification application is incomplete and the requirement for disapproval under paragraph (d)(3)(iv)(B) of this section is met, then the Administrator will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the Administrator and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification (as defined under § 75.20(a)(3) of this chapter). The owner or operator shall follow the procedures for loss of certification in paragraph (d)(3)(v) of this section for each monitoring system that is disapproved for initial certification.

(D) *Audit decertification.* The Administrator may issue a notice of disapproval of the certification status of a monitor in accordance with § 97.372(b).

(v) *Procedures for loss of certification.* If the Administrator issues a notice of disapproval of a certification application under paragraph (d)(3)(iv)(C) of this section or a notice of disapproval of certification status under paragraph (d)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each disapproved monitoring system, for each hour of unit operation during the period of invalid data specified under § 75.20(a)(4)(iii), § 75.20(g)(7), or § 75.21(e) of this chapter and continuing until the applicable date and hour specified under § 75.20(a)(5)(i) or (g)(7) of this chapter:

(*1*) For a disapproved NO_X emission rate (*i.e.*, NO_X-diluent) system, the maximum potential NO_X emission rate, as defined in (72.2 of this chapter.

(*2*) For a disapproved NO_X pollutant concentration monitor and disapproved flow monitor, respectively, the maximum potential concentration of NO_X and the maximum potential flow rate, as defined in sections 2.1.2.1 and 2.1.4.1 of appendix A to part 75 of this chapter.

(*3*) For a disapproved moisture monitoring system and disapproved diluent gas monitoring system, respectively, the minimum potential moisture percentage and either the maximum potential CO_2 concentration or the minimum potential O_2 concentration (as applicable), as defined in sections 2.1.5, 2.1.3.1, and 2.1.3.2 of appendix A to part 75 of this chapter.

(*4*) For a disapproved fuel flowmeter system, the maximum potential fuel flow rate, as defined in section 2.4.2.1 of appendix D to part 75 of this chapter.

(*5*) For a disapproved excepted NO_X monitoring system under appendix E to part 75 of this chapter, the fuel-specific maximum potential NO_X emission rate, as defined in (72.2 of this chapter.

(B) The CAIR designated representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (d)(3)(i) and (ii) of this section.

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the Administrator's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(e) *Initial certification and recertification procedures for units using the low mass emission excepted methodology under § 75.19 of this chapter.* The owner or operator of a unit qualified to use the low mass emissions (LME) excepted methodology under § 75.19 of this chapter shall meet the applicable certification and recertification requirements in §§ 75.19(a)(2) and 75.20(h) of this chapter. If the owner or operator of such a unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall

also meet the certification and recertification requirements in § 75.20(g) of this chapter.

(f) *Certification/recertification procedures for alternative monitoring systems.* The CAIR designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator under subpart E of part 75 of this chapter shall comply with the applicable notification and application procedures of § 75.20(f) of this chapter.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006]

§ 97.372 Out of control periods.

(a) Whenever any monitoring system fails to meet the quality-assurance and quality-control requirements or data validation requirements of part 75 of this chapter, data shall be substituted using the applicable missing data procedures in subpart D or subpart H of, or appendix D or appendix E to, part 75 of this chapter.

(b) *Audit decertification.* Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under § 97.371 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the Administrator will issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the permitting authority or the Administrator. By issuing the notice of disapproval, the Administrator revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the applicable initial certification or recertification procedures in § 97.371 for each disapproved monitoring system.

§ 97.373 Notifications.

The CAIR designated representative for a CAIR NO_X Ozone Season unit shall submit written notice to the Administrator in accordance with § 75.61 of this chapter.

§ 97.374 Recordkeeping and reporting.

(a) *General provisions.* The CAIR designated representative shall comply with all recordkeeping and reporting requirements in this section, the applicable recordkeeping and reporting requirements under § 75.73 of this chapter, and the requirements of § 97.310(e)(1).

(b) *Monitoring Plans.* The owner or operator of a CAIR NO_X Ozone Season unit shall comply with requirements of § 75.73 (c) and (e) of this chapter and, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart IIII of this part, §§ 97.383 and 97.384(a).

(c) *Certification Applications.* The CAIR designated representative shall submit an application to the Administrator within 45 days after completing all initial certification or recertification tests required under § 97.371, including the information required under § 75.63 of this chapter.

(d) *Quarterly reports.* The CAIR designated representative shall submit quarterly reports, as follows:

(1) If the CAIR NO_X Ozone Season unit is subject to an Acid Rain emissions limitation or a CAIR NO_X emissions limitation or if the owner or operator of such unit chooses to report on an annual basis under this subpart, the CAIR designated representative shall meet the requirements of subpart H of part 75 of this chapter (concerning monitoring of NO_X mass emissions) for such unit for the entire year and shall report the NO_X mass emissions data and heat input data for such unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(i) For a unit that commences commercial operation before July 1, 2007, the calendar quarter covering May 1, 2008 through June 30, 2008;

(ii) For a unit that commences commercial operation on or after July 1, 2007, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.370(b), unless that quarter is the third or fourth quarter of 2007 or the first quarter of 2008, in which case reporting shall commence in the quarter covering May 1, 2008 through June 30, 2008;

(iii) Notwithstanding paragraphs (d)(1) (i) and (ii) of this section, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart IIII of this part, the calendar quarter corresponding to the date specified in § 97.384(b); and

(iv) Notwithstanding paragraphs (d)(1) (i) and (ii) of this section, for a CAIR NO_X Ozone Season opt-in unit under subpart IIII of this part, the calendar quarter corresponding to the date on which the CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program as provided in § 97.384(g).

(2) If the CAIR NO_X Ozone Season unit is not subject to an Acid Rain emissions limitation or a CAIR NO_X emissions limitation, then the CAIR designated representative shall either:

(i) Meet the requirements of subpart H of part 75 (concerning monitoring of NO_X mass emissions) for such unit for the entire year and report the NO_X mass emissions data and heat input data for such unit in accordance with paragraph (d)(1) of this section; or

(ii) Meet the requirements of subpart H of part 75 for the control period (including the requirements in § 75.74(c) of this chapter) and report NO_X mass emissions data and heat input data (including the data described in § 75.74(c)(6) of this chapter) for such unit only for the control period of each year and report, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(A) For a unit that commences commercial operation before July 1, 2007, the calendar quarter covering May 1, 2008 through June 30, 2008;

(B) For a unit that commences commercial operation on or after July 1, 2007, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.370(b), unless that date is not during a control period, in which case reporting shall commence in the quarter that includes May 1 through June 30 of the first control period after such date;

(C) Notwithstanding paragraphs (d)(2)(ii)(A) and (2)(ii)(B) of this section, for a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under subpart IIII of this part, the calendar quarter corresponding to the date specified in § 97.384(b); and

(D) Notwithstanding paragraphs (d)(2)(ii)(A) and (2)(ii)(B) of this section, for a CAIR NO_X Ozone Season opt-in unit under subpart IIII of this part, the calendar quarter corresponding to the date on which the CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program as provided in § 97.384(g).

(3) The CAIR designated representative shall submit each quarterly report to the Administrator within 30 days following the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in § 75.73(f) of this chapter.

(4) For CAIR NO_X Ozone Season units that are also subject to an Acid Rain emissions limitation or the CAIR NO_X Annual Trading Program, CAIR SO_2 Trading Program, or Hg Budget Trading Program, quarterly reports shall include the applicable data and information required by subparts F through I of part 75 of this chapter as applicable, in addition to the NO_X mass emission data, heat input data, and other information required by this subpart.

(e) *Compliance certification.* The CAIR designated representative shall submit to the Administrator a compliance certification (in a format prescribed by the Administrator) in support of each quarterly report based on reasonable

inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(1) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications;

(2) For a unit with add-on NO_X emission controls and for all hours where NO_X data are substituted in accordance with § 75.34(a)(1) of this chapter, the add-on emission controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B to part 75 of this chapter and the substitute data values do not systematically underestimate NO_X emissions; and

(3) For a unit that is reporting on a control period basis under paragraph (d)(2)(ii) of this section, the NO_X emission rate and NO_X concentration values substituted for missing data under subpart D of part 75 of this chapter are calculated using only values from a control period and do not systematically underestimate NO_X emissions.

§ 97.375 Petitions.

The CAIR designated representative of a CAIR NO_X Ozone Season unit may submit a petition under § 75.66 of this chapter to the Administrator requesting approval to apply an alternative to any requirement of this subpart. Application of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that the petition is approved in writing by the Administrator, in consultation with the permitting authority.

Subpart IIII—CAIR NO_X Ozone Season Opt-in Units

§ 97.380 Applicability.

A CAIR NO_X Ozone Season opt-in unit must be a unit that:

(a) Is located in a State that submits, and for which the Administrator approves, a State implementation plan revision in accordance with § 51.123(ee)(3) (i), (ii), or (iii) of this chapter establishing procedures concerning CAIR Ozone Season opt-in units;

(b) Is not a CAIR NO_X Ozone Season unit under § 97.304 and is not covered by a retired unit exemption under § 97.305 that is in effect;

(c) Is not covered by a retired unit exemption under § 72.8 of this chapter that is in effect;

(d) Has or is required or qualified to have a title V operating permit or other federally enforceable permit; and

(e) Vents all of its emissions to a stack and can meet the monitoring, recordkeeping, and reporting requirements of subpart HHHH of this part.

§ 97.381 General.

(a) Except as otherwise provided in §§ 97.301 through 97.304, §§ 97.306 through 97.308, and subparts BBBB and CCCC and subparts FFFF through HHHH of this part, a CAIR NO_X Ozone Season opt-in unit shall be treated as a CAIR NO_X Ozone Season unit for purposes of applying such sections and subparts of this part.

(b) Solely for purposes of applying, as provided in this subpart, the requirements of subpart HHHH of this part to a unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under this subpart, such unit shall be treated as a CAIR NO_X Ozone Season unit before issuance of a CAIR opt-in permit for such unit.

§ 97.382 CAIR designated representative.

Any CAIR NO_X Ozone Season opt-in unit, and any unit for which a CAIR opt-in permit application is submitted and not withdrawn and a CAIR opt-in permit is not yet issued or denied under this subpart, located at the same source as one or more CAIR NO_X Ozone Season units shall have the same CAIR designated representative and alternate CAIR designated representative as such CAIR NO_X Ozone Season units.

§ 97.383 Applying for CAIR opt-in permit.

(a) *Applying for initial CAIR opt-in permit.* The CAIR designated representative of a unit meeting the requirements for a CAIR NO_X Ozone Season opt-in unit in § 97.380 may apply for an initial

CAIR opt-in permit at any time, except as provided under § 97.386 (f) and (g), and, in order to apply, must submit the following:

(1) A complete CAIR permit application under § 97.322;

(2) A certification, in a format specified by the permitting authority, that the unit:

(i) Is not a CAIR NO_X Ozone Season unit under § 97.304 and is not covered by a retired unit exemption under § 97.305 that is in effect;

(ii) Is not covered by a retired unit exemption under § 72.8 of this chapter that is in effect;

(iii) Vents all of its emissions to a stack; and

(iv) Has documented heat input for more than 876 hours during the 6 months immediately preceding submission of the CAIR permit application under § 97.322;

(3) A monitoring plan in accordance with subpart HHHH of this part;

(4) A complete certificate of representation under § 97.313 consistent with § 97.382, if no CAIR designated representative has been previously designated for the source that includes the unit; and

(5) A statement, in a format specified by the permitting authority, whether the CAIR designated representative requests that the unit be allocated CAIR NO_X Ozone Season allowances under § 97.380(b) or § 97.388(c) (subject to the conditions in §§ 97.384(h) and 97.386(g)), to the extent such allocation is provided in a State implementation plan revision submitted in accordance with § 51.123(ee)(3)(i), (ii), or (iii) of this chapter and approved by the Administrator. If allocation under § 97.388(c) is requested, this statement shall include a statement that the owners and operators intend to repower the unit before January 1, 2015 and that they will provide, upon request, documentation demonstrating such intent.

(b) *Duty to reapply.* (1) The CAIR designated representative of a CAIR NO_X Ozone Season opt-in unit shall submit a complete CAIR permit application under § 97.322 to renew the CAIR opt-in unit permit in accordance with the permitting authority's regulations for title V operating permits, or the permitting authority's regulations for other federally enforceable permits if applicable, addressing permit renewal.

(2) Unless the permitting authority issues a notification of acceptance of withdrawal of the CAIR NO_X Ozone Season opt-in unit from the CAIR NO_X Ozone Season Trading Program in accordance with § 97.386 or the unit becomes a CAIR NO_X Ozone Season unit under § 97.304, the CAIR NO_X Ozone Season opt-in unit shall remain subject to the requirements for a CAIR NO_X Ozone Season opt-in unit, even if the CAIR designated representative for the CAIR NO_X Ozone Season opt-in unit fails to submit a CAIR permit application that is required for renewal of the CAIR opt-in permit under paragraph (b)(1) of this section.

§ 97.384 Opt-in process.

The permitting authority will issue or deny a CAIR opt-in permit for a unit for which an initial application for a CAIR opt-in permit under § 97.383 is submitted in accordance with the following, to the extent provided in a State implementation plan revision submitted in accordance with § 51.123(ee)(3)(i), (ii), or (iii) of this chapter and approved by the Administrator:

(a) *Interim review of monitoring plan.* The permitting authority and the Administrator will determine, on an interim basis, the sufficiency of the monitoring plan accompanying the initial application for a CAIR opt-in permit under § 97.383. A monitoring plan is sufficient, for purposes of interim review, if the plan appears to contain information demonstrating that the NO_X emissions rate and heat input of the unit and all other applicable parameters are monitored and reported in accordance with subpart HHHH of this part. A determination of sufficiency shall not be construed as acceptance or approval of the monitoring plan.

(b) *Monitoring and reporting.* (1)(i) If the permitting authority and the Administrator determine that the monitoring plan is sufficient under paragraph (a) of this section, the owner or operator shall monitor and report the NO_X emissions rate and the heat input of the unit and all other applicable parameters, in accordance with subpart HHHH of this part, starting on the date

of certification of the appropriate monitoring systems under subpart HHHH of this part and continuing until a CAIR opt-in permit is denied under § 97.384(f) or, if a CAIR opt-in permit is issued, the date and time when the unit is withdrawn from the CAIR NO_X Ozone Season Trading Program in accordance with § 97.386.

(ii) The monitoring and reporting under paragraph (b)(1)(i) of this section shall include the entire control period immediately before the date on which the unit enters the CAIR NO_X Ozone Season Trading Program under § 97.384(g), during which period monitoring system availability must not be less than 90 percent under subpart HHHH of this part and the unit must be in full compliance with any applicable State or Federal emissions or emissions-related requirements.

(2) To the extent the NO_X emissions rate and the heat input of the unit are monitored and reported in accordance with subpart HHHH of this part for one or more control periods, in addition to the control period under paragraph (b)(1)(ii) of this section, during which control periods monitoring system availability is not less than 90 percent under subpart HHHH of this part and the unit is in full compliance with any applicable State or Federal emissions or emissions-related requirements and which control periods begin not more than 3 years before the unit enters the CAIR NO_X Ozone Season Trading Program under § 97.384(g), such information shall be used as provided in paragraphs (c) and (d) of this section.

(c) *Baseline heat input.* The unit's baseline heat input shall equal:

(1) If the unit's NO_X emissions rate and heat input are monitored and reported for only one control period, in accordance with paragraph (b)(1) of this section, the unit's total heat input (in mmBtu) for the control period; or

(2) If the unit's NO_X emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, the average of the amounts of the unit's total heat input (in mmBtu) for the control periods under paragraphs (b)(1)(ii) and (2) of this section.

(d) *Baseline NO_X emission rate.* The unit's baseline NO_X emission rate shall equal:

(1) If the unit's NO_X emissions rate and heat input are monitored and reported for only one control period, in accordance with paragraph (b)(1) of this section, the unit's NO_X emissions rate (in lb/mmBtu) for the control period;

(2) If the unit's NO_X emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, and the unit does not have add-on NO_X emission controls during any such control periods, the average of the amounts of the unit's NO_X emissions rate (in lb/mmBtu) for the control periods under paragraphs (b)(1)(ii) and (2) of this section; or

(3) If the unit's NO_X emissions rate and heat input are monitored and reported for more than one control period, in accordance with paragraphs (b)(1) and (2) of this section, and the unit has add-on NO_X emission controls during any such control periods, the average of the amounts of the unit's NO_X emissions rate (in lb/mmBtu) for such control periods during which the unit has add-on NO_X emission controls.

(e) *Issuance of CAIR opt-in permit.* After calculating the baseline heat input and the baseline NO_X emissions rate for the unit under paragraphs (c) and (d) of this section and if the permitting authority determines that the CAIR designated representative shows that the unit meets the requirements for a CAIR NO_X Ozone Season opt-in unit in § 97.380 and meets the elements certified in § 97.383(a)(2), the permitting authority will issue a CAIR opt-in permit. The permitting authority will provide a copy of the CAIR opt-in permit to the Administrator, who will then establish a compliance account for the source that includes the CAIR NO_X Ozone Season opt-in unit unless the source already has a compliance account.

(f) *Issuance of denial of CAIR opt-in permit.* Notwithstanding paragraphs (a) through (e) of this section, if at any time before issuance of a CAIR opt-in

permit for the unit, the permitting authority determines that the CAIR designated representative fails to show that the unit meets the requirements for a CAIR NO_X Ozone Season opt-in unit in § 97.380 or meets the elements certified in § 97.383(a)(2), the permitting authority will issue a denial of a CAIR opt-in permit for the unit.

(g) *Date of entry into CAIR NO_X* Ozone Season Trading Program. A unit for which an initial CAIR opt-in permit is issued by the permitting authority shall become a CAIR NO_X Ozone Season opt-in unit, and a CAIR NO_X Ozone Season unit, as of the later of May 1, 2009 or May 1 of the first control period during which such CAIR opt-in permit is issued.

(h) *Repowered CAIR NO_X* Ozone Season opt-in unit. (1) If CAIR designated representative requests, and the permitting authority issues a CAIR opt-in permit providing for, allocation to a CAIR NO_X Ozone Season opt-in unit of CAIR NO_X Ozone Season allowances under § 97.388(c) and such unit is repowered after its date of entry into the CAIR NO_X Ozone Season Trading Program under paragraph (g) of this section, the repowered unit shall be treated as a CAIR NO_X Ozone Season opt-in unit replacing the original CAIR NO_X Ozone Season opt-in unit, as of the date of start-up of the repowered unit's combustion chamber.

(2) Notwithstanding paragraphs (c) and (d) of this section, as of the date of start-up under paragraph (h)(1) of this section, the repowered unit shall be deemed to have the same date of commencement of operation, date of commencement of commercial operation, baseline heat input, and baseline NO_X emission rate as the original CAIR NO_X Ozone Season opt-in unit, and the original CAIR NO_X Ozone Season opt-in unit shall no longer be treated as a CAIR NO_X Ozone Season opt-in unit or a CAIR NO_X Ozone Season unit.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006]

§ 97.385 CAIR opt-in permit contents.

(a) Each CAIR opt-in permit will contain:

(1) All elements required for a complete CAIR permit application under § 97.322;

(2) The certification in § 97.383(a)(2);

(3) The unit's baseline heat input under § 97.384(c);

(4) The unit's baseline NO_X emission rate under § 97.384(d);

(5) A statement whether the unit is to be allocated CAIR NO_X Ozone Season allowances under § 97.388(b) or § 97.388(c) (subject to the conditions in §§ 97.384(h) and 97.386(g));

(6) A statement that the unit may withdraw from the CAIR NO_X Ozone Season Trading Program only in accordance with § 97.386; and

(7) A statement that the unit is subject to, and the owners and operators of the unit must comply with, the requirements of § 97.387.

(b) Each CAIR opt-in permit is deemed to incorporate automatically the definitions of terms under § 97.302 and, upon recordation by the Administrator under subpart FFFF or GGGG of this part or this subpart, every allocation, transfer, or deduction of CAIR NO_X Ozone Season allowances to or from the compliance account of the source that includes a CAIR NO_X Ozone Season opt-in unit covered by the CAIR opt-in permit.

(c) The CAIR opt-in permit shall be included, in a format specified by the permitting authority, in the CAIR permit for the source where the CAIR NO_X Ozone Season opt-in unit is located and in a title V operating permit or other federally enforceable permit for the source.

§ 97.386 Withdrawal from CAIR NO_X Ozone Season Trading Program.

Except as provided under paragraph (g) of this section, a CAIR NO_X Ozone Season opt-in unit may withdraw from the CAIR NO_X Ozone Season Trading Program, but only if the permitting authority issues a notification to the CAIR designated representative of the CAIR NO_X Ozone Season opt-in unit of the acceptance of the withdrawal of the CAIR NO_X Ozone Season opt-in unit in accordance with paragraph (d) of this section.

(a) *Requesting withdrawal.* In order to withdraw a CAIR NO_X Ozone Season opt-in unit from the CAIR NO_X Ozone Season Trading Program, the CAIR designated representative of the CAIR NO_X Ozone Season opt-in unit shall

submit to the permitting authority a request to withdraw effective as of midnight of September 30 of a specified calendar year, which date must be at least 4 years after September 30 of the year of entry into the CAIR NO_X Ozone Season Trading Program under § 97.384(g). The request must be submitted no later than 90 days before the requested effective date of withdrawal.

(b) *Conditions for withdrawal.* Before a CAIR NO_X Ozone Season opt-in unit covered by a request under paragraph (a) of this section may withdraw from the CAIR NO_X Ozone Season Trading Program and the CAIR opt-in permit may be terminated under paragraph (e) of this section, the following conditions must be met:

(1) For the control period ending on the date on which the withdrawal is to be effective, the source that includes the CAIR NO_X Ozone Season opt-in unit must meet the requirement to hold CAIR NO_X Ozone Season allowances under § 97.306(c) and cannot have any excess emissions.

(2) After the requirement for withdrawal under paragraph (b)(1) of this section is met, the Administrator will deduct from the compliance account of the source that includes the CAIR NO_X Ozone Season opt-in unit CAIR NO_X Ozone Season allowances equal in amount to and allocated for the same or a prior control period as any CAIR NO_X Ozone Season allowances allocated to the CAIR NO_X Ozone Season opt-in unit under § 97.388 for any control period for which the withdrawal is to be effective. If there are no remaining CAIR NO_X Ozone Season units at the source, the Administrator will close the compliance account, and the owners and operators of the CAIR NO_X Ozone Season opt-in unit may submit a CAIR NO_X Ozone Season allowance transfer for any remaining CAIR NO_X Ozone Season allowances to another CAIR NO_X Ozone Season Allowance Tracking System in accordance with subpart GGGG of this part.

(c) *Notification.* (1) After the requirements for withdrawal under paragraphs (a) and (b) of this section are met (including deduction of the full amount of CAIR NO_X Ozone Season allowances required), the permitting authority will issue a notification to the CAIR designated representative of the CAIR NO_X Ozone Season opt-in unit of the acceptance of the withdrawal of the CAIR NO_X Ozone Season opt-in unit as of midnight on September 30 of the calendar year for which the withdrawal was requested.

(2) If the requirements for withdrawal under paragraphs (a) and (b) of this section are not met, the permitting authority will issue a notification to the CAIR designated representative of the CAIR NO_X Ozone Season opt-in unit that the CAIR NO_X Ozone Season opt-in unit's request to withdraw is denied. Such CAIR NO_X Ozone Season opt-in unit shall continue to be a CAIR NO_X Ozone Season opt-in unit.

(d) *Permit amendment.* After the permitting authority issues a notification under paragraph (c)(1) of this section that the requirements for withdrawal have been met, the permitting authority will revise the CAIR permit covering the CAIR NO_X Ozone Season opt-in unit to terminate the CAIR opt-in permit for such unit as of the effective date specified under paragraph (c)(1) of this section. The unit shall continue to be a CAIR NO_X Ozone Season opt-in unit until the effective date of the termination and shall comply with all requirements under the CAIR NO_X Ozone Season Trading Program concerning any control periods for which the unit is a CAIR NO_X Ozone Season opt-in unit, even if such requirements arise or must be complied with after the withdrawal takes effect.

(e) *Reapplication upon failure to meet conditions of withdrawal.* If the permitting authority denies the CAIR NO_X Ozone Season opt-in unit's request to withdraw, the CAIR designated representative may submit another request to withdraw in accordance with paragraphs (a) and (b) of this section.

(f) *Ability to reapply to the CAIR NO_X Ozone Season Trading Program.* Once a CAIR NO_X Ozone Season opt-in unit withdraws from the CAIR NO_X Ozone Season Trading Program and its CAIR opt-in permit is terminated under this section, the CAIR designated representative may not submit another application for a CAIR opt-in permit under § 97.383 for such CAIR NO_X Ozone Season opt-in unit before the date that is 4 years after the date on which the

withdrawal became effective. Such new application for a CAIR opt-in permit will be treated as an initial application for a CAIR opt-in permit under § 97.384.

(g) *Inability to withdraw.* Notwithstanding paragraphs (a) through (f) of this section, a CAIR NO_X Ozone Season opt-in unit shall not be eligible to withdraw from the CAIR NO_X Ozone Season Trading Program if the CAIR designated representative of the CAIR NO_X Ozone Season opt-in unit requests, and the permitting authority issues a CAIR opt-in permit providing for, allocation to the CAIR NO_X Ozone Season opt-in unit of CAIR NO_X Ozone Season allowances under § 97.388(c).

§ 97.387 Change in regulatory status.

(a) *Notification.* If a CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 97.304, then the CAIR designated representative shall notify in writing the permitting authority and the Administrator of such change in the CAIR NO_X Ozone Season opt-in unit's regulatory status, within 30 days of such change.

(b) *Permitting authority's and Administrator's actions.* (1) If a CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 97.304, the permitting authority will revise the CAIR NO_X Ozone Season opt-in unit's CAIR opt-in permit to meet the requirements of a CAIR permit under § 97.323, and remove the CAIR opt-in permit provisions, as of the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 97.304.

(2)(i) The Administrator will deduct from the compliance account of the source that includes the CAIR NO_X Ozone Season opt-in unit that becomes a CAIR NO_X Ozone Season unit under § 97.304, CAIR NO_X Ozone Season allowances equal in amount to and allocated for the same or a prior control period as:

(A) Any CAIR NO_X Ozone Season allowances allocated to the CAIR NO_X Ozone Season opt-in unit under § 97.388 for any control period after the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 97.304; and

(B) If the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 97.304 is not September 30, the CAIR NO_X Ozone Season allowances allocated to the CAIR NO_X Ozone Season opt-in unit under § 97.388 for the control period that includes the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 97.304, multiplied by the ratio of the number of days, in the control period, starting with the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 97.304 divided by the total number of days in the control period and rounded to the nearest whole allowance as appropriate.

(ii) The CAIR designated representative shall ensure that the compliance account of the source that includes the CAIR NO_X Ozone Season opt-in unit that becomes a CAIR NO_X Ozone Season unit under § 97.304 contains the CAIR NO_X Ozone Season allowances necessary for completion of the deduction under paragraph (b)(2)(i) of this section.

(3)(i) For every control period after the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 97.304, the CAIR NO_X Ozone Season opt-in unit will be allocated CAIR NO_X Ozone Season allowances under § 97.342.

(ii) If the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 97.304 is not September 30, the following amount of CAIR NO_X Ozone Season allowances will be allocated to the CAIR NO_X Ozone Season opt-in unit (as a CAIR NO_X Ozone Season unit) under § 97.342 for the control period that includes the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 97.304:

(A) The amount of CAIR NO_X Ozone Season allowances otherwise allocated to the CAIR NO_X Ozone Season opt-in unit (as a CAIR NO_X Ozone Season unit) under § 97.342 for the control period multiplied by;

(B) The ratio of the number of days, in the control period, starting with the date on which the CAIR NO_X Ozone Season opt-in unit becomes a CAIR NO_X Ozone Season unit under § 97.304,

divided by the total number of days in the control period; and

(C) Rounded to the nearest whole allowance as appropriate.

[65 FR 2727, Jan. 18, 2000, as amended at 71 FR 74795, Dec. 13, 2006]

§ 97.388 CAIR NO_X Ozone Season allowance allocations to CAIR NO_X Ozone Season opt-in units.

(a) *Timing requirements.* (1) When the CAIR opt-in permit is issued under § 97.384(e), the permitting authority will allocate CAIR NO_X Ozone Season allowances to the CAIR NO_X Ozone Season opt-in unit, and submit to the Administrator the allocation for the control period in which a CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program under § 97.384(g), in accordance with paragraph (b) or (c) of this section.

(2) By no later than July 31 of the control period after the control period in which a CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program under § 97.384(g) and July 31 of each year thereafter, the permitting authority will allocate CAIR NO_X Ozone Season allowances to the CAIR NO_X Ozone Season opt-in unit, and submit to the Administrator the allocation for the control period that includes such submission deadline and in which the unit is a CAIR NO_X Ozone Season opt-in unit, in accordance with paragraph (b) or (c) of this section.

(b) *Calculation of allocation.* For each control period for which a CAIR NO_X Ozone Season opt-in unit is to be allocated CAIR NO_X Ozone Season allowances, the permitting authority will allocate in accordance with the following procedures, if provided in a State implementation plan revision submitted in accordance with § 51.123(ee)(3)(i), (ii), or (iii) of this chapter and approved by the Administrator:

(1) The heat input (in mmBtu) used for calculating the CAIR NO_X Ozone Season allowance allocation will be the lesser of:

(i) The CAIR NO_X Ozone Season opt-in unit's baseline heat input determined under § 97.384(c); or

(ii) The CAIR NO_X Ozone Season opt-in unit's heat input, as determined in accordance with subpart HHHH of this part, for the immediately prior control period, except when the allocation is being calculated for the control period in which the CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program under § 97.384(g).

(2) The NO_X emission rate (in lb/mmBtu) used for calculating CAIR NO_X Ozone Season allowance allocations will be the lesser of:

(i) The CAIR NO_X Ozone Season opt-in unit's baseline NO_X emissions rate (in lb/mmBtu) determined under § 97.384(d) and multiplied by 70 percent; or

(ii) The most stringent State or Federal NO_X emissions limitation applicable to the CAIR NO_X Ozone Season opt-in unit at any time during the control period for which CAIR NO_X Ozone Season allowances are to be allocated.

(3) The permitting authority will allocate CAIR NO_X Ozone Season allowances to the CAIR NO_X Ozone Season opt-in unit in an amount equaling the heat input under paragraph (b)(1) of this section, multiplied by the NO_X emission rate under paragraph (b)(2) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole allowance as appropriate.

(c) Notwithstanding paragraph (b) of this section and if the CAIR designated representative requests, and the permitting authority issues a CAIR opt-in permit (based on a demonstration of the intent to repower stated under § 97.383 (a)(5)) providing for, allocation to a CAIR NO_X Ozone Season opt-in unit of CAIR NO_X Ozone Season allowances under this paragraph (subject to the conditions in §§ 97.384(h) and 97.386(g)), the permitting authority will allocate to the CAIR NO_X Ozone Season opt-in unit as follows, if provided in a State implementation plan revision submitted in accordance with § 51.123(ee)(3)(i), (ii), or (iii) of this chapter and approved by the Administrator:

(1) For each control period in 2009 through 2014 for which the CAIR NO_X Ozone Season opt-in unit is to be allocated CAIR NO_X Ozone Season allowances,

(i) The heat input (in mmBtu) used for calculating CAIR NO_X Ozone Season

allowance allocations will be determined as described in paragraph (b)(1) of this section.

(ii) The NO_X emission rate (in lb/mmBtu) used for calculating CAIR NO_X Ozone Season allowance allocations will be the lesser of:

(A) The CAIR NO_X Ozone Season opt-in unit's baseline NO_X emissions rate (in lb/mmBtu) determined under § 97.384(d); or

(B) The most stringent State or Federal NO_X emissions limitation applicable to the CAIR NO_X Ozone Season opt-in unit at any time during the control period in which the CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program under § 97.384(g).

(iii) The permitting authority will allocate CAIR NO_X Ozone Season allowances to the CAIR NO_X Ozone Season opt-in unit in an amount equaling the heat input under paragraph (c)(1)(i) of this section, multiplied by the NO_X emission rate under paragraph (c)(1)(ii) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole allowance as appropriate.

(2) For each control period in 2015 and thereafter for which the CAIR NO_X Ozone Season opt-in unit is to be allocated CAIR NO_X Ozone Season allowances,

(i) The heat input (in mmBtu) used for calculating the CAIR NO_X Ozone Season allowance allocations will be determined as described in paragraph (b)(1) of this section.

(ii) The NO_X emission rate (in lb/mmBtu) used for calculating the CAIR NO_X Ozone Season allowance allocation will be the lesser of:

(A) 0.15 lb/mmBtu;

(B) The CAIR NO_X Ozone Season opt-in unit's baseline NO_X emissions rate (in lb/mmBtu) determined under § 97.384(d); or

(C) The most stringent State or Federal NO_X emissions limitation applicable to the CAIR NO_X Ozone Season opt-in unit at any time during the control period for which CAIR NO_X Ozone Season allowances are to be allocated.

(iii) The permitting authority will allocate CAIR NO_X Ozone Season allowances to the CAIR NO_X Ozone Season opt-in unit in an amount equaling the heat input under paragraph (c)(2)(i) of this section, multiplied by the NO_X emission rate under paragraph (c)(2)(ii) of this section, divided by 2,000 lb/ton, and rounded to the nearest whole allowance as appropriate.

(d) *Recordation*. If provided in a State implementation plan revision submitted in accordance with § 51.123(ee)(3)(i), (ii), or (iii) of this chapter and approved by the Administrator:

(1) The Administrator will record, in the compliance account of the source that includes the CAIR NO_X Ozone Season opt-in unit, the CAIR NO_X Ozone Season allowances allocated by the permitting authority to the CAIR NO_X Ozone Season opt-in unit under paragraph (a)(1) of this section.

(2) By September 1 of the control period in which a CAIR NO_X Ozone Season opt-in unit enters the CAIR NO_X Ozone Season Trading Program under § 97.384(g) and September 1 of each year thereafter, the Administrator will record, in the compliance account of the source that includes the CAIR NO_X Ozone Season opt-in unit, the CAIR NO_X Ozone Season allowances allocated by the permitting authority to the CAIR NO_X Ozone Season opt-in unit under paragraph (a)(2) of this section.

APPENDIX A TO SUBPART IIII OF PART 97—STATES WITH APPROVED STATE IMPLEMENTATION PLAN REVISIONS CONCERNING CAIR NO_X OZONE SEASON OPT-IN UNITS

1. The following States have State Implementation Plan revisions under § 51.123(ee)(3) of this chapter approved by the Administrator and establishing procedures providing for CAIR NO_X Ozone Season opt-in units under subpart IIII of this part and allocation of CAIR NO_X Ozone Season allowances to such units under § 97.388(b):

Indiana
Michigan
North Carolina
Ohio
South Carolina
Tennessee

2. The following States have State Implementation Plan revisions under § 51.123(ee)(3) of this chapter approved by the Administrator and establishing procedures providing for CAIR NO_X Ozone Season opt-in units under subpart IIII of this part and allocation of CAIR NO_X Ozone Season allowances to such units under § 97.388(c):

Indiana

Michigan
North Carolina
Ohio
South Carolina
Tennessee

[65 FR 2727, Jan. 18, 2000, as amended at 72 FR 46394, Aug. 20, 2007; 72 FR 56920, Oct. 5, 2007; 72 FR 57215, Oct. 9, 2007; 72 FR 59487, Oct. 22, 2007; 72 FR 72263, Dec. 20, 2007; 73 FR 6041, Feb. 1, 2008]

Subpart AAAAA—TR NO_X Annual Trading Program

SOURCE: 76 FR 48379, Aug. 8, 2011, unless otherwise noted.

§ 97.401 Purpose.

This subpart sets forth the general, designated representative, allowance, and monitoring provisions for the Transport Rule (TR) NO_X Annual Trading Program, under section 110 of the Clean Air Act and § 52.38 of this chapter, as a means of mitigating interstate transport of fine particulates and nitrogen oxides.

§ 97.402 Definitions.

The terms used in this subpart shall have the meanings set forth in this section as follows:

Acid Rain Program means a multistate SO_2 and NO_X air pollution control and emission reduction program established by the Administrator under title IV of the Clean Air Act and parts 72 through 78 of this chapter.

Administrator means the Administrator of the United States Environmental Protection Agency or the Director of the Clean Air Markets Division (or its successor determined by the Administrator) of the United States Environmental Protection Agency, the Administrator's duly authorized representative under this subpart.

Allocate or *allocation* means, with regard to TR NO_X Annual allowances, the determination by the Administrator, State, or permitting authority, in accordance with this subpart and any SIP revision submitted by the State and approved by the Administrator under § 52.38(a)(3), (4), or (5) of this chapter, of the amount of such TR NO_X Annual allowances to be initially credited, at no cost to the recipient, to:

(1) A TR NO_X Annual unit;

(2) A new unit set-aside;

(3) An Indian country new unit set-aside; or

(4) An entity not listed in paragraphs (1) through (3) of this definition;

(5) Provided that, if the Administrator, State, or permitting authority initially credits, to a TR NO_X Annual unit qualifying for an initial credit, a credit in the amount of zero TR NO_X Annual allowances, the TR NO_X Annual unit will be treated as being allocated an amount (*i.e.*, zero) of TR NO_X Annual allowances.

Allowable NO_X *emission rate* means, for a unit, the most stringent State or federal NO_X emission rate limit (in lb/MWhr or, if in lb/mmBtu, converted to lb/MWhr by multiplying it by the unit's heat rate in mmBtu/MWhr) that is applicable to the unit and covers the longest averaging period not exceeding one year.

Allowance Management System means the system by which the Administrator records allocations, deductions, and transfers of TR NO_X Annual allowances under the TR NO_X Annual Trading Program. Such allowances are allocated, recorded, held, deducted, or transferred only as whole allowances.

Allowance Management System account means an account in the Allowance Management System established by the Administrator for purposes of recording the allocation, holding, transfer, or deduction of TR NO_X Annual allowances.

Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Annual allowance transfer must be submitted for recordation in a TR NO_X Annual source's compliance account in order to be available for use in complying with the source's TR NO_X Annual emissions limitation for such control period in accordance with §§ 97.406 and 97.424.

Alternate designated representative means, for a TR NO_X Annual source and each TR NO_X Annual unit at the source, the natural person who is authorized by the owners and operators of

the source and all such units at the source, in accordance with this subpart, to act on behalf of the designated representative in matters pertaining to the TR NO_X Annual Trading Program. If the TR NO_X Annual source is also subject to the Acid Rain Program, TR NO_X Ozone Season Trading Program, TR SO_2 Group 1 Trading Program, or TR SO_2 Group 2 Trading Program, then this natural person shall be the same natural person as the alternate designated representative, as defined in the respective program.

Assurance account means an Allowance Management System account, established by the Administrator under § 97.425(b)(3) for certain owners and operators of a group of one or more TR NO_X Annual sources and units in a given State (and Indian country within the borders of such State), in which are held TR NO_X Annual allowances available for use for a control period in a given year in complying with the TR NO_X Annual assurance provisions in accordance with §§ 97.406 and 97.425.

Authorized account representative means, for a general account, the natural person who is authorized, in accordance with this subpart, to transfer and otherwise dispose of TR NO_X Annual allowances held in the general account and, for a TR NO_X Annual source's compliance account, the designated representative of the source.

Automated data acquisition and handling system or *DAHS* means the component of the continuous emission monitoring system, or other emissions monitoring system approved for use under this subpart, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by this subpart.

Biomass means—

(1) Any organic material grown for the purpose of being converted to energy;

(2) Any organic byproduct of agriculture that can be converted into energy; or

(3) Any material that can be converted into energy and is nonmerchantable for other purposes, that is segregated from other material that is nonmerchantable for other purposes, and that is;

(i) A forest-related organic resource, including mill residues, precommercial thinnings, slash, brush, or byproduct from conversion of trees to merchantable material; or

(ii) A wood material, including pallets, crates, dunnage, manufacturing and construction materials (other than pressure-treated, chemically-treated, or painted wood products), and landscape or right-of-way tree trimmings.

Boiler means an enclosed fossil- or other-fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

Bottoming-cycle unit means a unit in which the energy input to the unit is first used to produce useful thermal energy, where at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

Business day means a day that does not fall on a weekend or a federal holiday.

Certifying official means a natural person who is:

(1) For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy- or decision-making functions for the corporation;

(2) For a partnership or sole proprietorship, a general partner or the proprietor respectively; or

(3) For a local government entity or State, federal, or other public agency, a principal executive officer or ranking elected official.

Clean Air Act means the Clean Air Act, 42 U.S.C. 7401, *et seq*.

Coal means ''coal'' as defined in § 72.2 of this chapter.

Coal-derived fuel means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal, or chemical processing of coal.

Cogeneration system means an integrated group, at a source, of equipment (including a boiler, or combustion turbine, and a steam turbine generator)

designed to produce useful thermal energy for industrial, commercial, heating, or cooling purposes and electricity through the sequential use of energy.

Cogeneration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a topping-cycle unit or a bottoming-cycle unit:

(1) Operating as part of a cogeneration system; and

(2) Producing on an annual average basis—

(i) For a topping-cycle unit,

(A) Useful thermal energy not less than 5 percent of total energy output; and

(B) Useful power that, when added to one-half of useful thermal energy produced, is not less than 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output.

(ii) For a bottoming-cycle unit, useful power not less than 45 percent of total energy input;

(3) Provided that the requirements in paragraph (2) of this definition shall not apply to a calendar year referenced in paragraph (2) of this definition during which the unit did not operate at all;

(4) Provided that the total energy input under paragraphs (2)(i)(B) and (2)(ii) of this definition shall equal the unit's total energy input from all fuel, except biomass if the unit is a boiler; and

(5) Provided that, if, throughout its operation during the 12-month period or a calendar year referenced in paragraph (2) of this definition, a unit is operated as part of a cogeneration system and the cogeneration system meets on a system-wide basis the requirement in paragraph (2)(i)(B) or (2)(ii) of this definition, the unit shall be deemed to meet such requirement during that 12-month period or calendar year.

Combustion turbine means an enclosed device comprising:

(1) If the device is simple cycle, a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and

(2) If the device is combined cycle, the equipment described in paragraph (1) of this definition and any associated duct burner, heat recovery steam generator, and steam turbine.

Commence commercial operation means, with regard to a unit:

(1) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in § 97.405.

(i) For a unit that is a TR NO_X Annual unit under § 97.404 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in the introductory text of paragraph (1) of this definition and that subsequently undergoes a physical change or is moved to a new location or source, such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a TR NO_X Annual unit under § 97.404 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in the introductory text of paragraph (1) of this definition and that is subsequently replaced by a unit at the same or a different source, such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

(2) Notwithstanding paragraph (1) of this definition and except as provided in § 97.405, for a unit that is not a TR NO_X Annual unit under § 97.404 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in introductory text of paragraph (1) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a TR NO_X Annual unit under § 97.404.

(i) For a unit with a date for commencement of commercial operation as defined in the introductory text of paragraph (2) of this definition and that subsequently undergoes a physical

change or is moved to a different location or source, such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in the introductory text of paragraph (2) of this definition and that is subsequently replaced by a unit at the same or a different source, such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

Common designated representative means, with regard to a control period in a given year, a designated representative where, as of April 1 immediately after the allowance transfer deadline for such control period, the same natural person is authorized under §§97.413(a) and 97.415(a) as the designated representative for a group of one or more TR NO_X Annual sources and units located in a State (and Indian country within the borders of such State).

Common designated representative's assurance level means, with regard to a specific common designated representative and a State (and Indian country within the borders of such State) and control period in a given year for which the State assurance level is exceeded as described in §97.406(c)(2)(iii), the common designated representative's share of the State NO_X Annual trading budget with the variability limit for the State for such control period.

Common designated representative's share means, with regard to a specific common designated representative for a control period in a given year:

(1) With regard to a total amount of NO_X emissions from all TR NO_X Annual units in a State (and Indian country within the borders of such State) during such control period, the total tonnage of NO_X emissions during such control period from a group of one or more TR NO_X Annual units located in such State (and such Indian country) and having the common designated representative for such control period;

(2) With regard to a State NO_X Annual trading budget with the variability limit for such control period, the amount (rounded to the nearest allowance) equal to the sum of the total amount of TR NO_X Annual allowances allocated for such control period to a group of one or more TR NO_X Annual units located in the State (and Indian country within the borders of such State) and having the common designated representative for such control period and of the total amount of TR NO_X Annual allowances purchased by an owner or operator of such TR NO_X Annual units in an auction for such control period and submitted by the State or the permitting authority to the Administrator for recordation in the compliance accounts for such TR NO_X Annual units in accordance with the TR NO_X Annual allowance auction provisions in a SIP revision approved by the Administrator under §52.38(a)(4) or (5) of this chapter, multiplied by the sum of the State NO_X Annual trading budget under §97.410(a) and the State's variability limit under §97.410(b) for such control period and divided by such State NO_X Annual trading budget;

(3) Provided that, in the case of a unit that operates during, but has no amount of TR NO_X Annual allowances allocated under §§97.411 and 97.412 for, such control period, the unit shall be treated, solely for purposes of this definition, as being allocated an amount (rounded to the nearest allowance) of TR NO_X Annual allowances for such control period equal to the unit's allowable NO_X emission rate applicable to such control period, multiplied by a capacity factor of 0.85 (if the unit is a boiler combusting any amount of coal or coal-derived fuel during such control period), 0.24 (if the unit is a simple combustion turbine during such control period), 0.67 (if the unit is a combined cycle turbine during such control period), 0.74 (if the unit is an integrated coal gasification combined cycle unit during such control period), or 0.36 (for any other unit), multiplied by the unit's maximum hourly load as reported in accordance with this subpart and by 8,760 hours/control period, and divided by 2,000 lb/ton.

Common stack means a single flue through which emissions from 2 or more units are exhausted.

Compliance account means an Allowance Management System account, established by the Administrator for a TR NO_X Annual source under this subpart, in which any TR NO_X Annual allowance allocations to the TR NO_X Annual units at the source are recorded and in which are held any TR NO_X Annual allowances available for use for a control period in a given year in complying with the source's TR NO_X Annual emissions limitation in accordance with §§ 97.406 and 97.424.

Continuous emission monitoring system or *CEMS* means the equipment required under this subpart to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes and using an automated data acquisition and handling system (DAHS), a permanent record of NO_X emissions, stack gas volumetric flow rate, stack gas moisture content, and O_2 or CO_2 concentration (as applicable), in a manner consistent with part 75 of this chapter and §§ 97.430 through 97.435. The following systems are the principal types of continuous emission monitoring systems:

(1) A flow monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);

(2) A NO_X concentration monitoring system, consisting of a NO_X pollutant concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X emissions, in parts per million (ppm);

(3) A NO_X emission rate (or NO_X-diluent) monitoring system, consisting of a NO_X pollutant concentration monitor, a diluent gas (CO_2 or O_2) monitor, and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X concentration, in parts per million (ppm), diluent gas concentration, in percent CO_2 or O_2, and NO_X emission rate, in pounds per million British thermal units (lb/mmBtu);

(4) A moisture monitoring system, as defined in § 75.11(b)(2) of this chapter and providing a permanent, continuous record of the stack gas moisture content, in percent H_2O;

(5) A CO_2 monitoring system, consisting of a CO_2 pollutant concentration monitor (or an O_2 monitor plus suitable mathematical equations from which the CO_2 concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of CO_2 emissions, in percent CO_2; and

(6) An O_2 monitoring system, consisting of an O_2 concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O_2, in percent O_2.

Control period means the period starting January 1 of a calendar year, except as provided in § 97.406(c)(3), and ending on December 31 of the same year, inclusive.

Designated representative means, for a TR NO_X Annual source and each TR NO_X Annual unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to represent and legally bind each owner and operator in matters pertaining to the TR NO_X Annual Trading Program. If the TR NO_X Annual source is also subject to the Acid Rain Program, TR NO_X Ozone Season Trading Program, TR SO_2 Group 1 Trading Program, or TR SO_2 Group 2 Trading Program, then this natural person shall be the same natural person as the designated representative, as defined in the respective program.

Emissions means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the designated representative, and as modified by the Administrator:

(1) In accordance with this subpart; and

(2) With regard to a period before the unit or source is required to measure, record, and report such air pollutants in accordance with this subpart, in accordance with part 75 of this chapter.

Excess emissions means any ton of emissions from the TR NO_X Annual

units at a TR NO_X Annual source during a control period in a given year that exceeds the TR NO_X Annual emissions limitation for the source for such control period.

Fossil fuel means—

(1) Natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material; or

(2) For purposes of applying the limitation on ''average annual fuel consumption of fossil fuel'' in §§ 97.404(b)(2)(i)(B) and (ii), natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat.

Fossil-fuel-fired means, with regard to a unit, combusting any amount of fossil fuel in 2005 or any calendar year thereafter.

General account means an Allowance Management System account, established under this subpart, that is not a compliance account or an assurance account.

Generator means a device that produces electricity.

Gross electrical output means, for a unit, electricity made available for use, including any such electricity used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any onsite emission controls).

Heat input means, for a unit for a specified period of time, the product (in mmBtu/time) of the gross calorific value of the fuel (in mmBtu/lb) fed into the unit multiplied by the fuel feed rate (in lb of fuel/time), as measured, recorded, and reported to the Administrator by the designated representative and as modified by the Administrator in accordance with this subpart and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust.

Heat input rate means, for a unit, the amount of heat input (in mmBtu) divided by unit operating time (in hr) or, for a unit and a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Heat rate means, for a unit, the unit's maximum design heat input (in Btu/hr), divided by the product of 1,000,000 Btu/mmBtu and the unit's maximum hourly load.

Indian country means ''Indian country'' as defined in 18 U.S.C. 1151.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period no less than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input means, for a unit, the maximum amount of fuel per hour (in Btu/hr) that the unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.

Monitoring system means any monitoring system that meets the requirements of this subpart, including a continuous emission monitoring system, an alternative monitoring system, or an excepted monitoring system under part 75 of this chapter.

Nameplate capacity means, starting from the initial installation of a generator, the maximum electrical generating output (in MWe, rounded to the nearest tenth) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output that the generator is capable of producing on a steady state basis and during continuous operation

(when not restricted by seasonal or other deratings), such increased maximum amount (in MWe, rounded to the nearest tenth) as of such completion as specified by the person conducting the physical change.

Natural gas means ''natural gas'' as defined in § 72.2 of this chapter.

Newly affected TR NO_X Annual unit means a unit that was not a TR NO_X Annual unit when it began operating but that thereafter becomes a TR NO_X Annual unit.

Operate or *operation* means, with regard to a unit, to combust fuel.

Operator means, for a TR NO_X Annual source or a TR NO_X Annual unit at a source respectively, any person who operates, controls, or supervises a TR NO_X Annual unit at the source or the TR NO_X Annual unit and shall include, but not be limited to, any holding company, utility system, or plant manager of such source or unit.

Owner means, for a TR NO_X Annual source or a TR NO_X Annual unit at a source respectively, any of the following persons:

(1) Any holder of any portion of the legal or equitable title in a TR NO_X Annual unit at the source or the TR NO_X Annual unit;

(2) Any holder of a leasehold interest in a TR NO_X Annual unit at the source or the TR NO_X Annual unit, provided that, unless expressly provided for in a leasehold agreement, ''owner'' shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based (either directly or indirectly) on the revenues or income from such TR NO_X Annual unit; and 3) Any purchaser of power from a TR NO_X Annual unit at the source or the TR NO_X Annual unit under a life-of-the-unit, firm power contractual arrangement.

Permanently retired means, with regard to a unit, a unit that is unavailable for service and that the unit's owners and operators do not expect to return to service in the future.

Permitting authority means ''permitting authority'' as defined in §§ 70.2 and 71.2 of this chapter.

Potential electrical output capacity means, for a unit, 33 percent of the unit's maximum design heat input, divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

Receive or *receipt of* means, when referring to the Administrator, to come into possession of a document, information, or correspondence (whether sent in hard copy or by authorized electronic transmission), as indicated in an official log, or by a notation made on the document, information, or correspondence, by the Administrator in the regular course of business.

Recordation, record, or *recorded* means, with regard to TR NO_X Annual allowances, the moving of TR NO_X Annual allowances by the Administrator into, out of, or between Allowance Management System accounts, for purposes of allocation, auction, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in § 75.22 of this chapter.

Replacement, replace, or *replaced* means, with regard to a unit, the demolishing of a unit, or the permanent retirement and permanent disabling of a unit, and the construction of another unit (the replacement unit) to be used instead of the demolished or retired unit (the replaced unit).

Sequential use of energy means:

(1) The use of reject heat from electricity production in a useful thermal energy application or process; or

(2) The use of reject heat from useful thermal energy application or process in electricity production.

Serial number means, for a TR NO_X Annual allowance, the unique identification number assigned to each TR NO_X Annual allowance by the Administrator.

Solid waste incineration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a ''solid waste incineration unit'' as defined in section 129(g)(1) of the Clean Air Act.

Source means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons. This definition does not change or otherwise affect the definition of ''major source'', ''stationary source'', or ''source'' as set forth and

implemented in a title V operating permit program or any other program under the Clean Air Act.

State means one of the States that is subject to the TR NO_X Annual Trading Program pursuant to § 52.38(a) of this chapter.

Submit or *serve* means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery;

(4) Provided that compliance with any ''submission'' or ''service'' deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Topping-cycle unit means a unit in which the energy input to the unit is first used to produce useful power, including electricity, where at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

Total energy input means, for a unit, total energy of all forms supplied to the unit, excluding energy produced by the unit. Each form of energy supplied shall be measured by the lower heating value of that form of energy calculated as follows:

$$LHV = HHV - 10.55(W + 9H)$$

where:

LHV = lower heating value of the form of energy in Btu/lb,

HHV = higher heating value of the form of energy in Btu/lb,

W = weight % of moisture in the form of energy, and

H = weight % of hydrogen in the form of energy.

Total energy output means, for a unit, the sum of useful power and useful thermal energy produced by the unit.

TR NO_X Annual allowance means a limited authorization issued and allocated or auctioned by the Administrator under this subpart, or by a State or permitting authority under a SIP revision approved by the Administrator under § 52.38(a)(3), (4), or (5) of this chapter, to emit one ton of NO_X during a control period of the specified calendar year for which the authorization is allocated or auctioned or of any calendar year thereafter under the TR NO_X Annual Trading Program.

TR NO_X Annual allowance deduction or *deduct TR NO_X Annual allowances* means the permanent withdrawal of TR NO_X Annual allowances by the Administrator from a compliance account (*e.g.*, in order to account for compliance with the TR NO_X Annual emissions limitation) or from an assurance account (*e.g.*, in order to account for compliance with the assurance provisions under §§ 97.406 and 97.425).

TR NO_X Annual allowances held or *hold TR NO_4 Annual allowances* means the TR NO_X Annual allowances treated as included in an Allowance Management System account as of a specified point in time because at that time they:

(1) Have been recorded by the Administrator in the account or transferred into the account by a correctly submitted, but not yet recorded, TR NO_X Annual allowance transfer in accordance with this subpart; and

(2) Have not been transferred out of the account by a correctly submitted, but not yet recorded, TR NO_X Annual allowance transfer in accordance with this subpart.

TR NO_X Annual emissions limitation means, for a TR NO_X Annual source, the tonnage of NO_X emissions authorized in a control period in a given year by the TR NO_X Annual allowances available for deduction for the source under § 97.424(a) for such control period.

TR NO_X Annual source means a source that includes one or more TR NO_X Annual units.

TR NO_X Annual Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with this subpart and § 52.38(a) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(a)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(a)(5) of this chapter), as a means of mitigating interstate transport of fine particulates and NO_X.

TR NO_X Annual unit means a unit that is subject to the TR NO_X Annual Trading Program.

TR NO_X Ozone Season Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart BBBBB of this part and § 52.38(b) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(5) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

TR SO_2 Group 1 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with subpart CCCCC of this part and § 52.39(a), (b), (d) through (f), (j), and (k) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(d) or (e) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(f) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

TR SO_2 Group 2 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with subpart DDDDD of this part and 52.39(a), (c), and (g) through (k) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(g) or (h) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(i) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

Unit means a stationary, fossil-fuel-fired boiler, stationary, fossil-fuel-fired combustion turbine, or other stationary, fossil-fuel-fired combustion device. A unit that undergoes a physical change or is moved to a different location or source shall continue to be treated as the same unit. A unit (the replaced unit) that is replaced by another unit (the replacement unit) at the same or a different source shall continue to be treated as the same unit, and the replacement unit shall be treated as a separate unit.

Unit operating day means, with regard to a unit, a calendar day in which the unit combusts any fuel.

Unit operating hour or hour of unit operation means, with regard to a unit, an hour in which the unit combusts any fuel.

Useful power means, with regard to a unit, electricity or mechanical energy that the unit makes available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Useful thermal energy means thermal energy that is:

(1) Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;

(2) Used in a heating application (*e.g.*, space heating or domestic hot water heating); or

(3) Used in a space cooling application (*i.e.*, in an absorption chiller).

Utility power distribution system means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.

§ 97.403 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this subpart are defined as follows:

Btu—British thermal unit
CO_2—carbon dioxide
H_2O—water
hr—hour
kW—kilowatt electrical
kWh—kilowatt hour
lb—pound
mmBtu—million Btu
MWe—megawatt electrical
MWh—megawatt hour
NO_X—nitrogen oxides
O_2—oxygen
ppm—parts per million
scfh—standard cubic feet per hour
SO_2—sulfur dioxide
yr—year

§ 97.404 Applicability.

(a) Except as provided in paragraph (b) of this section:

(1) The following units in a State (and Indian country within the borders of such State) shall be TR NO_X Annual

units, and any source that includes one or more such units shall be a TR NO_X Annual source, subject to the requirements of this subpart: any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, on or after January 1, 2005, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

(2) If a stationary boiler or stationary combustion turbine that, under paragraph (a)(1) of this section, is not a TR NO_X Annual unit begins to combust fossil fuel or to serve a generator with nameplate capacity of more than 25 MWe producing electricity for sale, the unit shall become a TR NO_X Annual unit as provided in paragraph (a)(1) of this section on the first date on which it both combusts fossil fuel and serves such generator.

(b) Any unit in a State (and Indian country within the borders of such State) that otherwise is a TR NO_X Annual unit under paragraph (a) of this section and that meets the requirements set forth in paragraph (b)(1)(i) or (2)(i) of this section shall not be a TR NO_X Annual unit:

(1)(i) Any unit:

(A) Qualifying as a cogeneration unit throughout the later of 2005 or the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit throughout each calendar year ending after the later of 2005 or such 12-month period; and

(B) Not supplying in 2005 or any calendar year thereafter more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

(ii) If, after qualifying under paragraph (b)(1)(i) of this section as not being a TR NO_X Annual unit, a unit subsequently no longer meets all the requirements of paragraph (b)(1)(i) of this section, the unit shall become a TR NO_X Annual unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a cogeneration unit or January 1 after the first calendar year during which the unit no longer meets the requirements of paragraph (b)(1)(i)(B) of this section. The unit shall thereafter continue to be a TR NO_X Annual unit.

(2)(i) Any unit:

(A) Qualifying as a solid waste incineration unit throughout the later of 2005 or the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a solid waste incineration unit throughout each calendar year ending after the later of 2005 or such 12-month period; and

(B) With an average annual fuel consumption of fossil fuel for the first 3 consecutive calendar years of operation starting no earlier than 2005 of less than 20 percent (on a Btu basis) and an average annual fuel consumption of fossil fuel for any 3 consecutive calendar years thereafter of less than 20 percent (on a Btu basis).

(ii) If, after qualifying under paragraph (b)(2)(i) of this section as not being a TR NO_X Annual unit, a unit subsequently no longer meets all the requirements of paragraph (b)(1)(i) of this section, the unit shall become a TR NO_X Annual unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a solid waste incineration unit or January 1 after the first 3 consecutive calendar years after 2005 for which the unit has an average annual fuel consumption of fossil fuel of 20 percent or more. The unit shall thereafter continue to be a TR NO_X Annual unit.

(c) A certifying official of an owner or operator of any unit or other equipment may submit a petition (including any supporting documents) to the Administrator at any time for a determination concerning the applicability, under paragraphs (a) and (b) of this section or a SIP revision approved under § 52.38(a)(4) or (5) of this chapter, of the TR NO_X Annual Trading Program to the unit or other equipment.

(1) Petition content. The petition shall be in writing and include the identification of the unit or other equipment and the relevant facts about the unit or other equipment. The petition and any other documents provided to the Administrator in connection with the petition shall include the following certification statement, signed

by the certifying official: ''I am authorized to make this submission on behalf of the owners and operators of the unit or other equipment for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) Response. The Administrator will issue a written response to the petition and may request supplemental information determined by the Administrator to be relevant to such petition. The Administrator's determination concerning the applicability, under paragraphs (a) and (b) of this section, of the TR NO_X Annual Trading Program to the unit or other equipment shall be binding on any State or permitting authority unless the Administrator determines that the petition or other documents or information provided in connection with the petition contained significant, relevant errors or omissions.

§ 97.405 Retired unit exemption.

(a)(1) Any TR NO_X Annual unit that is permanently retired shall be exempt from § 97.406(b) and (c)(1), § 97.424, and §§ 97.430 through 97.435.

(2) The exemption under paragraph (a)(1) of this section shall become effective the day on which the TR NO_X Annual unit is permanently retired. Within 30 days of the unit's permanent retirement, the designated representative shall submit a statement to the Administrator. The statement shall state, in a format prescribed by the Administrator, that the unit was permanently retired on a specified date and will comply with the requirements of paragraph (b) of this section.

(b) Special provisions. (1) A unit exempt under paragraph (a) of this section shall not emit any NO_X, starting on the date that the exemption takes effect.

(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under paragraph (a) of this section shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under paragraph (a) of this section shall comply with the requirements of the TR NO_X Annual Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(4) A unit exempt under paragraph (a) of this section shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under this subpart, as a unit that commences commercial operation on the first date on which the unit resumes operation.

§ 97.406 Standard requirements.

(a) *Designated representative requirements.* The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with §§ 97.413 through 97.418.

(b) *Emissions monitoring, reporting, and recordkeeping requirements.* (1) The owners and operators, and the designated representative, of each TR NO_X Annual source and each TR NO_X Annual unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of §§ 97.430 through 97.435.

(2) The emissions data determined in accordance with §§ 97.430 through 97.435 shall be used to calculate allocations of TR NO_X Annual allowances under §§ 97.411(a)(2) and (b) and 97.412 and to

determine compliance with the TR NO_X Annual emissions limitation and assurance provisions under paragraph (c) of this section, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with §§ 97.430 through 97.435 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

(c) *NO_X emissions requirements.* (1) TR NO_X Annual emissions limitation. (i) As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Annual source and each TR NO_X Annual unit at the source shall hold, in the source's compliance account, TR NO_X Annual allowances available for deduction for such control period under § 97.424(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Annual units at the source.

(ii) If total NO_X emissions during a control period in a given year from the TR NO_X Annual units at a TR NO_X Annual source are in excess of the TR NO_X Annual emissions limitation set forth in paragraph (c)(1)(i) of this section, then:

(A) The owners and operators of the source and each TR NO_X Annual unit at the source shall hold the TR NO_X Annual allowances required for deduction under § 97.424(d); and

(B) The owners and operators of the source and each TR NO_X Annual unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart and the Clean Air Act.

(2) TR NO_X Annual assurance provisions. (i) If total NO_X emissions during a control period in a given year from all TR NO_X Annual units at TR NO_X Annual sources in a State (and Indian country within the borders of such State) exceed the State assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_X emissions during such control period exceeds the common designated representative's assurance level for the State and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR NO_X Annual allowances available for deduction for such control period under § 97.425(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with § 97.425(b), of multiplying—

(A) The quotient of the amount by which the common designated representative's share of such NO_X emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the State (and Indian country within the borders of such State) for such control period, by which each common designated representative's share of such NO_X emissions exceeds the respective common designated representative's assurance level; and

(B) The amount by which total NO_X emissions from all TR NO_X Annual units at TR NO_X Annual sources in the State (and Indian country within the borders of such State) for such control period exceed the State assurance level.

(ii) The owners and operators shall hold the TR NO_X Annual allowances required under paragraph (c)(2)(i) of this section, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.

(iii) Total NO_X emissions from all TR NO_X Annual units at TR NO_X Annual sources in a State (and Indian country within the borders of such State) during a control period in a given year exceed the State assurance level if such total NO_X emissions exceed the sum, for such control period, of the State NO_X Annual trading budget under § 97.410(a) and the State's variability limit under § 97.410(b).

(iv) It shall not be a violation of this subpart or of the Clean Air Act if total NO_X emissions from all TR NO_X Annual units at TR NO_X Annual sources in a State (and Indian country within the borders of such State) during a control period exceed the State assurance level or if a common designated representative's share of total NO_X emissions from the TR NO_X Annual units at TR NO_X Annual sources in a State (and Indian country within the borders of such State) during a control period exceeds the common designated representative's assurance level.

(v) To the extent the owners and operators fail to hold TR NO_X Annual allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) of this section,

(A) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and

(B) Each TR NO_X Annual allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) of this section and each day of such control period shall constitute a separate violation of this subpart and the Clean Air Act.

(3) *Compliance periods.* (i) A TR NO_X Annual unit shall be subject to the requirements under paragraph (c)(1) of this section for the control period starting on the later of January 1, 2015 or the deadline for meeting the unit's monitor certification requirements under § 97.430(b) and for each control period thereafter.

(ii) A TR NO_X Annual unit shall be subject to the requirements under paragraph (c)(2) of this section for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under § 97.430(b) and for each control period thereafter.

(4) Vintage of allowances held for compliance. (i) A TR NO_X Annual allowance held for compliance with the requirements under paragraph (c)(1)(i) of this section for a control period in a given year must be a TR NO_X Annual allowance that was allocated for such control period or a control period in a prior year.

(ii) A TR NO_X Annual allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) of this section for a control period in a given year must be a TR NO_X Annual allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.

(5) Allowance Management System requirements. Each TR NO_X Annual allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with this subpart.

(6) Limited authorization. A TR NO_X Annual allowance is a limited authorization to emit one ton of NO_X during the control period in one year. Such authorization is limited in its use and duration as follows:

(i) Such authorization shall only be used in accordance with the TR NO_X Annual Trading Program; and

(ii) Notwithstanding any other provision of this subpart, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.

(7) Property right. A TR NO_X Annual allowance does not constitute a property right.

(d) *Title V permit requirements.* (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR NO_X Annual allowances in accordance with this subpart.

(2) A description of whether a unit is required to monitor and report NO_X emissions using a continuous emission monitoring system (under subpart H of part 75 of this chapter), an excepted monitoring system (under appendices D and E to part 75 of this chapter), a low mass emissions excepted monitoring methodology (under § 75.19 of this chapter), or an alternative monitoring system (under subpart E of part 75 of this chapter) in accordance with §§ 97.430 through 97.435 may be added to, or changed in, a title V permit using minor permit modification procedures in accordance with §§ 70.7(e)(2) and

71.7(e)(1) of this chapter, provided that the requirements applicable to the described monitoring and reporting (as added or changed, respectively) are already incorporated in such permit. This paragraph explicitly provides that the addition of, or change to, a unit's description as described in the prior sentence is eligible for minor permit modification procedures in accordance with §§ 70.7(e)(2)(i)(B) and 71.7(e)(1)(i)(B) of this chapter.

(e) *Additional recordkeeping and reporting requirements*. (1) Unless otherwise provided, the owners and operators of each TR NO_X Annual source and each TR NO_X Annual unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.

(i) The certificate of representation under § 97.416 for the designated representative for the source and each TR NO_X Annual unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under § 97.416 changing the designated representative.

(ii) All emissions monitoring information, in accordance with this subpart.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR NO_X Annual Trading Program.

(2) The designated representative of a TR NO_X Annual source and each TR NO_X Annual unit at the source shall make all submissions required under the TR NO_X Annual Trading Program, except as provided in § 97.418. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in parts 70 and 71 of this chapter.

(f) *Liability*. (1) Any provision of the TR NO_X Annual Trading Program that applies to a TR NO_X Annual source or the designated representative of a TR NO_X Annual source shall also apply to the owners and operators of such source and of the TR NO_X Annual units at the source.

(2) Any provision of the TR NO_X Annual Trading Program that applies to a TR NO_X Annual unit or the designated representative of a TR NO_X Annual unit shall also apply to the owners and operators of such unit.

(g) *Effect on other authorities*. No provision of the TR NO_X Annual Trading Program or exemption under § 97.405 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR NO_X Annual source or TR NO_X Annual unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

[76 FR 48379, Aug. 8, 2011, as amended at 77 FR 10334, Feb. 21, 2012; 79 FR 71672, Dec. 3, 2014]

§ 97.407 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the TR NO_X Annual Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the TR NO_X Annual Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the TR NO_X Annual Trading Program, is not a business day, the time period shall be extended to the next business day.

§ 97.408 Administrative appeal procedures.

The administrative appeal procedures for decisions of the Administrator under the TR NO_X Annual Trading Program are set forth in part 78 of this chapter.

§ 97.409 [Reserved]

§ 97.410 State NO_X Annual trading budgets, new unit set-asides, Indian country new unit set-aside, and variability limits.

(a) The State NO_X Annual trading budgets, new unit set-asides, and Indian country new unit-set asides for allocations of TR NO_X Annual allowances for the control periods in 2015 and thereafter are as follows:

(1) *Alabama*. (i) The NO_X annual trading budget for 2015 and 2016 is 72,691 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 1,454 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 71,962 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 1,439 tons.

(vi) [Reserved]

(2) *Georgia*. (i) The NO_X annual trading budget for 2015 and 2016 is 62,010 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 1,240 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 53,738 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 1,075 tons.

(vi) [Reserved]

(3) *Illinois*. (i) The NO_X annual trading budget for 2015 and 2016 is 47,872 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 3,830 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 47,872 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 3,830 tons.

(vi) [Reserved]

(4) *Indiana*. (i) The NO_X annual trading budget for 2015 and 2016 is 109,726 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 3,292 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 108,424 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 3,253 tons.

(vi) [Reserved]

(5) *Iowa*. (i) The NO_X annual trading budget for 2015 and 2016 is 38,335 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 729 tons.

(iii) The NO_X annual Indian country new unit set-aside for 2015 and 2016 is 38 tons.

(iv) The NO_X annual trading budget for 2017 and thereafter is 37,498 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 712 tons.

(vi) The NO_X annual Indian country new unit set-aside for 2017 and thereafter is 38 tons.

(6) *Kansas*. (i) The NO_X annual trading budget for 2015 and 2016 is 31,354 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 596 tons.

(iii) The NO_X annual Indian country new unit set-aside for 2015 and 2016 is 31 tons.

(iv) The NO_X annual trading budget for 2017 and thereafter is 31,354 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 596 tons.

(vi) The NO_X annual Indian country new unit set-aside for 2017 and thereafter is 31 tons.

(7) *Kentucky*. (i) The NO_X annual trading budget for 2015 and 2016 is 85,086 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 3,403 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 77,238 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 3,090 tons.

(vi) [Reserved]

(8) *Maryland*. (i) The NO_X annual trading budget for 2015 and 2016 is 16,633 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 333 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 16,574 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 331 tons.

(vi) [Reserved]

(9) *Michigan*. (i) The NO_X annual trading budget for 2015 and 2016 is 65,421 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 1,243 tons.

(iii) The NO_X annual Indian country new unit set-aside for 2015 and 2016 is 65 tons.

(iv) The NO_X annual trading budget for 2017 and thereafter is 63,040 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 1,198 tons.

(vi) The NO_X annual Indian country new unit set-aside for 2017 and thereafter is 63 tons.

(10) *Minnesota*. (i) The NO_X annual trading budget for 2015 and 2016 is 29,572 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 561 tons.

(iii) The NO_X annual Indian country new unit set-aside for 2015 and 2016 is 30 tons.

(iv) The NO_X annual trading budget for 2017 and thereafter is 29,572 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 561 tons.

(vi) The NO_X annual Indian country new unit set-aside for 2017 and thereafter is 30 tons.

(11) *Missouri*. (i) The NO_X annual trading budget for 2015 and 2016 is 52,400 tons.

(ii) The NO_X annual new unit set-aside for 2015 is 1,572 tons and for 2016 is 3,144 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 48,743 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 2,925 tons.

(12) *Nebraska*. (i) The NO_X annual trading budget for 2015 and 2016 is 30,039 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 1,772 tons.

(iii) The NO_X annual Indian country new unit set-aside for 2015 and 2016 is 30 tons.

(iv) The NO_X annual trading budget for 2017 and thereafter is 30,039 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 1,772 tons.

(vi) The NO_X annual Indian country new unit set-aside for 2017 and thereafter is 30 tons.

(13) *New Jersey*. (i) The NO_X annual trading budget for 2015 and 2016 is 8,218 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 164 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 7,945 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 159 tons.

(vi) [Reserved]

(14) *New York*. (i) The NO_X annual trading budget for 2015 and 2016 is 21,722 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 412 tons.

(iii) The NO_X annual Indian country new unit set-aside for 2015 and 2016 is 22 tons.

(iv) The NO_X annual trading budget for 2017 and thereafter is 21,722 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 412 tons.

(vi) The NO_X annual Indian country new unit set-aside for 2017 and thereafter is 22 tons.

(15) *North Carolina*. (i) The NO_X annual trading budget for 2015 and 2016 is 50,587 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 2,984 tons.

(iii) The NO_X annual Indian country new unit set-aside for 2015 and 2016 is 51 tons.

(iv) The NO_X annual trading budget for 2017 and thereafter is 41,553 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 2,451 tons.

(vi) The NO_X annual Indian country new unit set-aside for 2017 and thereafter is 42 tons.

(16) *Ohio*. (i) The NO_X annual trading budget for 2015 and 2016 is 95,468 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 1,909 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 90,258 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 1,805 tons.

(17) *Pennsylvania*. (i) The NO_X annual trading budget for 2015 and 2016 is 119,986 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 2,400 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 119,194 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 2,384 tons.

(vi) [Reserved]

(18) *South Carolina*. (i) The NO_X annual trading budget for 2015 and 2016 is 32,498 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 617 tons.

(iii) The NO_X annual Indian country new unit set-aside for 2015 and 2016 is 33 tons.

(iv) The NO_X annual trading budget for 2017 and thereafter is 32,498 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 617 tons.

(vi) The NO_X annual Indian country new unit set-aside for 2017 and thereafter is 33 tons.

(19) *Tennessee*. (i) The NO_X annual trading budget for 2015 and 2016 is 35,703 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 714 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 19,337 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 387 tons.

(vi) [Reserved]

(20) *Texas*. (i) The NO_X annual trading budget for 2015 and 2016 is 137,701 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 5,370 tons.

(iii) The NO_X annual Indian country new unit set-aside for 2015 and 2016 is 138 tons.

(iv) The NO_X annual trading budget for 2017 and thereafter is 137,701 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 5,370 tons.

(vi) The NO_X annual Indian country new unit set-aside for 2017 and thereafter is 138 tons.

(21) *Virginia*. (i) The NO_X annual trading budget for 2015 and 2016 is 33,242 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 1,662 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 33,242 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 1,662 tons.

(vi) [Reserved]

(22) *West Virginia*. (i) The NO_X annual trading budget for 2015 and 2016 is 59,472 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 2,974 tons.

(iii) [Reserved]

(iv) The NO_X annual trading budget for 2017 and thereafter is 54,582 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 2,729 tons.

(vi) [Reserved]

(23) *Wisconsin*. (i) The NO_X annual trading budget for 2015 and 2016 is 34,101 tons.

(ii) The NO_X annual new unit set-aside for 2015 and 2016 is 2,012 tons.

(iii) The NO_X annual Indian country new unit set-aside for 2015 and 2016 is 34 tons.

(iv) The NO_X annual trading budget for 2017 and thereafter is 32,871 tons.

(v) The NO_X annual new unit set-aside for 2017 and thereafter is 1,939 tons.

(vi) The NO_X annual Indian country new unit set-aside for 2017 and thereafter is 33 tons.

(b) The States' variability limits for the State NO_X Annual trading budgets for the control periods in 2017 and thereafter are as follows:

(1) The NO_X annual variability limit for Alabama is 12,953 tons.

(2) The NO_X annual variability limit for Georgia is 9,673 tons.

(3) The NO_X annual variability limit for Illinois is 8,617 tons.

(4) The NO_X annual variability limit for Indiana is 19,516 tons.

(5) The NO_X annual variability limit for Iowa is 6,750 tons.

(6) The NO_X annual variability limit for Kansas is 5,644 tons.

(7) The NO_X annual variability limit for Kentucky is 13,903 tons.

(8) The NO_X annual variability limit for Maryland is 2,983 tons.

(9) The NO_X annual variability limit for Michigan is 11,347 tons.

(10) The NO_X annual variability limit for Minnesota is 5,323 tons.

(11) The NO_X annual variability limit for Missouri is 8,774 tons.

(12) The NO_X annual variability limit for Nebraska is 5,407 tons.

(13) The NO_X annual variability limit for New Jersey is 1,430 tons.

(14) The NO_X annual variability limit for New York is 3,910 tons.

(15) The NO_X annual variability limit for North Carolina is 7,480 tons.

(16) The NO_X annual variability limit for Ohio is 16,246 tons.

(17) The NO_X annual variability limit for Pennsylvania is 21,455 tons.

(18) The NO_X annual variability limit for South Carolina is 5,850 tons.

(19) The NO_X annual variability limit for Tennessee is 3,481 tons.

(20) The NO_X annual variability limit for Texas is 24,786 tons.

(21) The NO_X annual variability limit for Virginia is 5,984 tons.

(22) The NO_X annual variability limit for West Virginia is 9,825 tons.

(23) The NO_X annual variability limit for Wisconsin is 5,917 tons.

(c) Each NO_X annual trading budget identified in this section includes any tons in a new unit set aside or Indian country new unit set aside, but does not include any tons in a variability limit.

[77 FR 10334, Feb. 21, 2012, as amended at 77 FR 10347, Feb. 21, 2012; 77 FR 34844, June 12, 2012; 79 FR 71672, Dec. 3, 2014]

§ 97.411 Timing requirements for TR NO_X Annual allowance allocations.

(a) *Existing units.* (1) TR NO_X Annual allowances are allocated, for the control periods in 2015 and each year thereafter, as provided in a notice of data availability issued by the Administrator. Providing an allocation to a unit in such notice does not constitute a determination that the unit is a TR NO_X Annual unit, and not providing an allocation to a unit in such notice does not constitute a determination that the unit is not a TR NO_X Annual unit.

(2) Notwithstanding paragraph (a)(1) of this section, if a unit provided an allocation in the notice of data availability issued under paragraph (a)(1) of this section does not operate, starting after 2014, during the control period in two consecutive years, such unit will not be allocated the TR NO_X Annual allowances provided in such notice for the unit for the control periods in the fifth year after the first such year and in each year after that fifth year. All TR NO_X Annual allowances that would otherwise have been allocated to such unit will be allocated to the new unit set-aside for the State where such unit is located and for the respective years involved. If such unit resumes operation, the Administrator will allocate TR NO_X Annual allowances to the unit in accordance with paragraph (b) of this section.

(b) *New units.* (1) New unit set-asides. (i) By June 1, 2015 and June 1 of each year thereafter, the Administrator will calculate the TR NO_X Annual allowance allocation to each TR NO_X Annual unit in a State, in accordance with § 97.412(a)(2) through (7) and (12), for the control period in the year of the applicable calculation deadline under this paragraph and will promulgate a notice of data availability of the results of the calculations.

(ii) For each notice of data availability required in paragraph (b)(1)(i) of this section, the Administrator will provide an opportunity for submission of objections to the calculations referenced in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(1)(i) of this section and shall be limited to addressing whether the calculations (including the identification of the TR NO_X Annual units) are in accordance with § 97.412(a)(2) through (7) and (12) and §§ 97.406(b)(2) and 97.430 through 97.435.

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(1)(ii)(A) of this section. By August 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(1)(i) of this section, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary with regard to allocations under § 97.412(a)(2) through (7) and (12) and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(1)(ii)(A) of this section.

(iii) If the new unit set-aside for such control period contains any TR NO_X Annual allowances that have not been allocated in the applicable notice of data availability required in paragraph

(b)(1)(ii) of this section, the Administrator will promulgate, by December 15 immediately after such notice, a notice of data availability that identifies any TR NO_X Annual units that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of year of such control period.

(iv) For each notice of data availability required in paragraph (b)(1)(iii) of this section, the Administrator will provide an opportunity for submission of objections to the identification of TR NO_X annual units in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(1)(iii) of this section and shall be limited to addressing whether the identification of TR NO_X annual units in such notice is in accordance with paragraph (b)(1)(iii) of this section.

(B) The Administrator will adjust the identification of TR NO_X Annual units in the each notice of data availability required in paragraph (b)(1)(iii) of this section to the extent necessary to ensure that it is in accordance with paragraph (b)(1)(iii) of this section and will calculate the TR NO_X Annual allowance allocation to each TR NO_X Annual unit in accordance with §97.412(a)(9), (10), and (12) and §§97.406(b)(2) and 97.430 through 97.435. By February 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(1)(iii) of this section, the Administrator will promulgate a notice of data availability of any adjustments of the identification of TR NO_X Annual units that the Administrator determines to be necessary, the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(1)(iv)(A) of this section, and the results of such calculations.

(v) To the extent any TR NO_X Annual allowances are added to the new unit set-aside after promulgation of each notice of data availability required in paragraph (b)(1)(iv) of this section, the Administrator will promulgate additional notices of data availability, as deemed appropriate, of the allocation of such TR NO_X Annual allowances in accordance with §97.412(a)(10).

(2) Indian country new unit set-asides. (i) By June 1, 2015 and June 1 of each year thereafter, the Administrator will calculate the TR NO_X Annual allowance allocation to each TR NO_X Annual unit in Indian country within the borders of a State, in accordance with §97.412(b)(2) through (7) and (12), for the control period in the year of the applicable calculation deadline under this paragraph and will promulgate a notice of data availability of the results of the calculations.

(ii) For each notice of data availability required in paragraph (b)(2)(i) of this section, the Administrator will provide an opportunity for submission of objections to the calculations referenced in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(2)(i) of this section and shall be limited to addressing whether the calculations (including the identification of the TR NO_X Annual units) are in accordance with §97.412(b)(2) through (7) and (12) and §§97.406(b)(2) and 97.430 through 97.435.

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(2)(ii)(A) of this section. By August 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(i) of this section, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary with regard to allocations under §97.412(b)(2) through (7) and (12) and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(ii)(A) of this section.

(iii) If the Indian country new unit set-aside for such control period contains any TR NO_X Annual allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(2)(ii) of this section, the Administrator will promulgate, by December 15 immediately after such notice, a notice of data availability that identifies any TR NO_X

Annual units that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of year of such control period.

(iv) For each notice of data availability required in paragraph (b)(2)(iii) of this section, the Administrator will provide an opportunity for submission of objections to the identification of TR NO_X annual units in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(2)(iii) of this section and shall be limited to addressing whether the identification of TR NO_X annual units in such notice is in accordance with paragraph (b)(2)(iii) of this section.

(B) The Administrator will adjust the identification of TR NO_X Annual units in the each notice of data availability required in paragraph (b)(2)(iii) of this section to the extent necessary to ensure that it is in accordance with paragraph (b)(2)(iii) of this section and will calculate the TR NO_X Annual allowance allocation to each TR NO_X Annual unit in accordance with § 97.412(b)(9), (10), and (12) and §§ 97.406(b)(2) and 97.430 through 97.435. By February 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii) of this section, the Administrator will promulgate a notice of data availability of any adjustments of the identification of TR NO_X Annual units that the Administrator determines to be necessary, the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(iv)(A) of this section, and the results of such calculations.

(v) To the extent any TR NO_X Annual allowances are added to the Indian country new unit set-aside after promulgation of each notice of data availability required in paragraph (b)(2)(iv) of this section, the Administrator will promulgate additional notices of data availability, as deemed appropriate, of the allocation of such TR NO_X Annual allowances in accordance with § 97.412(b)(10).

(c) *Units incorrectly allocated* TR NO_X *Annual allowances.* (1) For each control period in 2015 and thereafter, if the Administrator determines that TR NO_X Annual allowances were allocated under paragraph (a) of this section, or under a provision of a SIP revision approved under § 52.38(a)(3), (4), or (5) of this chapter, where such control period and the recipient are covered by the provisions of paragraph (c)(1)(i) of this section or were allocated under § 97.412(a)(2) through (7), (9), and (12) and (b)(2) through (7), (9), and (12), or under a provision of a SIP revision approved under § 52.38(a)(4) or (5) of this chapter, where such control period and the recipient are covered by the provisions of paragraph (c)(1)(ii) of this section, then the Administrator will notify the designated representative of the recipient and will act in accordance with the procedures set forth in paragraphs (c)(2) through (5) of this section:

(i)(A) The recipient is not actually a TR NO_X Annual unit under § 97.404 as of January 1, 2015 and is allocated TR NO_X Annual allowances for such control period or, in the case of an allocation under a provision of a SIP revision approved under § 52.38(a)(3), (4), or (5) of this chapter, the recipient is not actually a TR NO_X Annual unit as of January 1, 2015 and is allocated TR NO_X Annual allowances for such control period that the SIP revision provides should be allocated only to recipients that are TR NO_X Annual units as of January 1, 2015; or

(B) The recipient is not located as of January 1 of the control period in the State from whose NO_X Annual trading budget the TR NO_X Annual allowances allocated under paragraph (a) of this section, or under a provision of a SIP revision approved under § 52.38(a)(3), (4), or (5) of this chapter, were allocated for such control period.

(ii) The recipient is not actually a TR NO_X Annual unit under § 97.404 as of January 1 of such control period and is allocated TR NO_X Annual allowances for such control period or, in the case of an allocation under a provision of a SIP revision approved under § 52.38(a)(3), (4), or (5) of this chapter, the recipient is not actually a TR NO_X Annual unit as of January 1 of such control period and is allocated TR NO_X Annual allowances for such control period that the SIP revision provides

should be allocated only to recipients that are TR NO_X Annual units as of January 1 of such control period.

(2) Except as provided in paragraph (c)(3) or (4) of this section, the Administrator will not record such TR NO_X Annual allowances under § 97.421.

(3) If the Administrator already recorded such TR NO_X Annual allowances under § 97.421 and if the Administrator makes the determination under paragraph (c)(1) of this section before making deductions for the source that includes such recipient under § 97.424(b) for such control period, then the Administrator will deduct from the account in which such TR NO_X Annual allowances were recorded an amount of TR NO_X Annual allowances allocated for the same or a prior control period equal to the amount of such already recorded TR NO_X Annual allowances. The authorized account representative shall ensure that there are sufficient TR NO_X Annual allowances in such account for completion of the deduction.

(4) If the Administrator already recorded such TR NO_X Annual allowances under § 97.421 and if the Administrator makes the determination under paragraph (c)(1) of this section after making deductions for the source that includes such recipient under § 97.424(b) for such control period, then the Administrator will not make any deduction to take account of such already recorded TR NO_X Annual allowances.

(5)(i) With regard to the TR NO_X Annual allowances that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(i) of this section, the Administrator will:

(A) Transfer such TR NO_X Annual allowances to the new unit set-aside for such control period for the State from whose NO_X Annual trading budget the TR NO_X Annual allowances were allocated; or

(B) If the State has a SIP revision approved under § 52.38(a)(4) or (5) covering such control period, include such TR NO_X Annual allowances in the portion of the State NO_X Annual trading budget that may be allocated for such control period in accordance with such SIP revision.

(ii) With regard to the TR NO_X Annual allowances that were not allocated from the Indian country new unit set-aside for such control period and that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(ii) of this paragraph, the Administrator will:

(A) Transfer such TR NO_X Annual allowances to the new unit set-aside for such control period; or

(B) If the State has a SIP revision approved under § 52.38(a)(4) or (5) covering such control period, include such TR NO_X Annual allowances in the portion of the State NO_X Annual trading budget that may be allocated for such control period in accordance with such SIP revision.

(iii) With regard to the TR NO_X Annual allowances that were allocated from the Indian country new unit set-aside for such control period and that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(ii) of this paragraph, the Administrator will transfer such TR NO_X Annual allowances to the Indian country new unit set-aside for such control period.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.412 TR NO_X Annual allowance allocations to new units.

(a) For each control period in 2015 and thereafter and for the TR NO_X Annual units in each State, the Administrator will allocate TR NO_X Annual allowances to the TR NO_X Annual units as follows:

(1) The TR NO_X Annual allowances will be allocated to the following TR NO_X Annual units, except as provided in paragraph (a)(10) of this section:

(i) TR NO_X Annual units that are not allocated an amount of TR NO_X Annual allowances in the notice of data availability issued under § 97.411(a)(1);

(ii) TR NO_X Annual units whose allocation of an amount of TR NO_X Annual allowances for such control period in the notice of data availability issued under § 97.411(a)(1) is covered by § 97.411(c)(2) or (3);

(iii) TR NO_X Annual units that are allocated an amount of TR NO_X Annual allowances for such control period in the notice of data availability issued under § 97.411(a)(1), which allocation is terminated for such control period pursuant to § 97.411(a)(2), and that operate during the control period immediately preceding such control period; or

(iv) For purposes of paragraph (a)(9) of this section, TR NO_X Annual units under § 97.411(c)(1)(ii) whose allocation of an amount of TR NO_X Annual allowances for such control period in the notice of data availability issued under § 97.411(b)(1)(ii)(B) is covered by § 97.411(c)(2) or (3).

(2) The Administrator will establish a separate new unit set-aside for the State for each such control period. Each such new unit set-aside will be allocated TR NO_X Annual allowances in an amount equal to the applicable amount of tons of NO_X emissions as set forth in § 97.410(a) and will be allocated additional TR NO_X Annual allowances (if any) in accordance with §§ 97.411(a)(2) and (c)(5) and paragraph (b)(10) of this section.

(3) The Administrator will determine, for each TR NO_X Annual unit described in paragraph (a)(1) of this section, an allocation of TR NO_X Annual allowances for the later of the following control periods and for each subsequent control period:

(i) The control period in 2015;

(ii) The first control period after the control period in which the TR NO_X Annual unit commences commercial operation;

(iii) For a unit described in paragraph (a)(1)(ii) of this section, the first control period in which the TR NO_X Annual unit operates in the State after operating in another jurisdiction and for which the unit is not already allocated one or more TR NO_X Annual allowances; and

(iv) For a unit described in paragraph (a)(1)(iii) of this section, the first control period after the control period in which the unit resumes operation.

(4)(i) The allocation to each TR NO_X annual unit described in paragraph (a)(1)(i) through (iii) of this section and for each control period described in paragraph (a)(3) of this section will be an amount equal to the unit's total tons of NO_X emissions during the immediately preceding control period.

(ii) The Administrator will adjust the allocation amount in paragraph (a)(4)(i) in accordance with paragraphs (a)(5) through (7) and (12) of this section.

(5) The Administrator will calculate the sum of the TR NO_X Annual allowances determined for all such TR NO_X Annual units under paragraph (a)(4)(i) of this section in the State for such control period.

(6) If the amount of TR NO_X Annual allowances in the new unit set-aside for the State for such control period is greater than or equal to the sum under paragraph (a)(5) of this section, then the Administrator will allocate the amount of TR NO_X Annual allowances determined for each such TR NO_X Annual unit under paragraph (a)(4)(i) of this section.

(7) If the amount of TR NO_X Annual allowances in the new unit set-aside for the State for such control period is less than the sum under paragraph (a)(5) of this section, then the Administrator will allocate to each such TR NO_X Annual unit the amount of the TR NO_X Annual allowances determined under paragraph (a)(4)(i) of this section for the unit, multiplied by the amount of TR NO_X Annual allowances in the new unit set-aside for such control period, divided by the sum under paragraph (a)(5) of this section, and rounded to the nearest allowance.

(8) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.411(b)(1)(i) and (ii), of the amount of TR NO_X Annual allowances allocated under paragraphs (a)(2) through (7) and (12) of this section for such control period to each TR NO_X Annual unit eligible for such allocation.

(9) If, after completion of the procedures under paragraphs (a)(5) through (8) of this section for such control period, any unallocated TR NO_X Annual allowances remain in the new unit set-aside for the State for such control period, the Administrator will allocate such TR NO_X Annual allowances as follows—

(i) The Administrator will determine, for each unit described in paragraph

(a)(1) of this section that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of TR NO_X Annual allowances referenced in the notice of data availability required under §97.411(b)(1)(ii) for the unit for such control period;

(ii) The Administrator will determine the sum of the positive differences determined under paragraph (a)(9)(i) of this section;

(iii) If the amount of unallocated TR NO_X Annual allowances remaining in the new unit set-aside for the State for such control period is greater than or equal to the sum determined under paragraph (a)(9)(ii) of this section, then the Administrator will allocate the amount of TR NO_X Annual allowances determined for each such TR NO_X Annual unit under paragraph (a)(9)(i) of this section; and

(iv) If the amount of unallocated TR NO_X Annual allowances remaining in the new unit set-aside for the State for such control period is less than the sum under paragraph (a)(9)(ii) of this section, then the Administrator will allocate to each such TR NO_X Annual unit the amount of the TR NO_X Annual allowances determined under paragraph (a)(9)(i) of this section for the unit, multiplied by the amount of unallocated TR NO_X Annual allowances remaining in the new unit set-aside for such control period, divided by the sum under paragraph (a)(9)(ii) of this section, and rounded to the nearest allowance.

(10) If, after completion of the procedures under paragraphs (a)(9) and (12) of this section for such control period, any unallocated TR NO_X Annual allowances remain in the new unit set-aside for the State for such control period, the Administrator will allocate to each TR NO_X Annual unit that is in the State, is allocated an amount of TR NO_X Annual allowances in the notice of data availability issued under §97.411(a)(1), and continues to be allocated TR NO_X Annual allowances for such control period in accordance with §97.411(a)(2), an amount of TR NO_X Annual allowances equal to the following: the total amount of such remaining unallocated TR NO_X Annual allowances in such new unit set-aside, multiplied by the unit's allocation under §97.411(a) for such control period, divided by the remainder of the amount of tons in the applicable State NO_X Annual trading budget minus the sum of the amounts of tons in such new unit set-aside and the Indian country new unit set-aside for the State for such control period, and rounded to the nearest allowance.

(11) The Administrator will notify the public, through the promulgation of the notices of data availability described in §97.411(b)(1)(iii), (iv), and (v), of the amount of TR NO_X Annual allowances allocated under paragraphs (a)(9), (10), and (12) of this section for such control period to each TR NO_X Annual unit eligible for such allocation.

(12)(i) Notwithstanding the requirements of paragraphs (a)(2) through (11) of this section, if the calculations of allocations of a new unit set-aside for a control period in a given year under paragraph (a)(7) of this section, paragraphs (a)(6) and (9)(iv) of this section, or paragraphs (a)(6), (9)(iii), and (10) of this section would otherwise result in total allocations of such new unit set-aside exceeding the total amount of such new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (a)(7), (9)(iv), or (10) of this section, as applicable, as follows. The Administrator will list the TR NO_X Annual units in descending order based on the amount of such units' allocations under paragraph (a)(7), (9)(iv), or (10) of this section, as applicable, and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will reduce each unit's allocation under paragraph (a)(7), (9)(iv), or (10) of this section, as applicable, by one TR NO_X Annual allowance (but not below zero) in the order in which the units are listed and will repeat this reduction process as necessary, until the total allocations of such new unit set-aside equal the total amount of such new unit set-aside.

(ii) Notwithstanding the requirements of paragraphs (a)(10) and (11) of this section, if the calculations of allocations of a new unit set-aside for a control period in a given year under paragraphs (a)(6), (9)(iii), and (10) of this section would otherwise result in a total allocations of such new unit set-aside less than the total amount of such new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (a)(10) of this section, as follows. The Administrator will list the TR NO_X Annual units in descending order based on the amount of such units' allocations under paragraph (a)(10) of this section and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will increase each unit's allocation under paragraph (a)(10) of this section by one TR NO_X Annual allowance in the order in which the units are listed and will repeat this increase process as necessary, until the total allocations of such new unit set-aside equal the total amount of such new unit set-aside.

(b) For each control period in 2015 and thereafter and for the TR NO_X Annual units located in Indian country within the borders of each State, the Administrator will allocate TR NO_X Annual allowances to the TR NO_X Annual units as follows:

(1) The TR NO_X Annual allowances will be allocated to the following TR NO_X Annual units, except as provided in paragraph (b)(10) of this section:

(i) TR NO_X Annual units that are not allocated an amount of TR NO_X Annual allowances in the notice of data availability issued under § 97.411(a)(1); or

(ii) For purposes of paragraph (b)(9) of this section, TR NO_X Annual units under § 97.411(c)(1)(ii) whose allocation of an amount of TR NO_X Annual allowances for such control period in the notice of data availability issued under § 97.411(b)(2)(ii)(B) is covered by § 97.411(c)(2) or (3).

(2) The Administrator will establish a separate Indian country new unit set-aside for the State for each such control period. Each such Indian country new unit set-aside will be allocated TR NO_X Annual allowances in an amount equal to the applicable amount of tons of NO_X emissions as set forth in § 97.410(a) and will be allocated additional TR NO_X Annual allowances (if any) in accordance with § 97.411(c)(5).

(3) The Administrator will determine, for each TR NO_X Annual unit described in paragraph (b)(1) of this section, an allocation of TR NO_X Annual allowances for the later of the following control periods and for each subsequent control period:

(i) The control period in 2015; and

(ii) The first control period after the control period in which the TR NO_X Annual unit commences commercial operation.

(4)(i) The allocation to each TR NO_X annual unit described in paragraph (b)(1)(i) of this section and for each control period described in paragraph (b)(3) of this section will be an amount equal to the unit's total tons of NO_X emissions during the immediately preceding control period.

(ii) The Administrator will adjust the allocation amount in paragraph (b)(4)(i) in accordance with paragraphs (b)(5) through (7) and (12) of this section.

(5) The Administrator will calculate the sum of the TR NO_X Annual allowances determined for all such TR NO_X Annual units under paragraph (b)(4)(i) of this section in Indian country within the borders of the State for such control period.

(6) If the amount of TR NO_X Annual allowances in the Indian country new unit set-aside for the State for such control period is greater than or equal to the sum under paragraph (b)(5) of this section, then the Administrator will allocate the amount of TR NO_X Annual allowances determined for each such TR NO_X Annual unit under paragraph (b)(4)(i) of this section.

(7) If the amount of TR NO_X Annual allowances in the Indian country new unit set-aside for the State for such control period is less than the sum under paragraph (b)(5) of this section, then the Administrator will allocate to each such TR NO_X Annual unit the amount of the TR NO_X Annual allowances determined under paragraph (b)(4)(i) of this section for the unit, multiplied by the amount of TR NO_X

Annual allowances in the Indian country new unit set-aside for such control period, divided by the sum under paragraph (b)(5) of this section, and rounded to the nearest allowance.

(8) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.411(b)(2)(i) and (ii), of the amount of TR NO_X Annual allowances allocated under paragraphs (b)(2) through (7) and (12) of this section for such control period to each TR NO_X Annual unit eligible for such allocation.

(9) If, after completion of the procedures under paragraphs (b)(5) through (8) of this section for such control period, any unallocated TR NO_X Annual allowances remain in the Indian country new unit set-aside for the State for such control period, the Administrator will allocate such TR NO_X Annual allowances as follows—

(i) The Administrator will determine, for each unit described in paragraph (b)(1) of this section that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of TR NO_X Annual allowances referenced in the notice of data availability required under § 97.411(b)(2)(ii) for the unit for such control period;

(ii) The Administrator will determine the sum of the positive differences determined under paragraph (b)(9)(i) of this section;

(iii) If the amount of unallocated TR NO_X Annual allowances remaining in the Indian country new unit set-aside for the State for such control period is greater than or equal to the sum determined under paragraph (b)(9)(ii) of this section, then the Administrator will allocate the amount of TR NO_X Annual allowances determined for each such TR NO_X Annual unit under paragraph (b)(9)(i) of this section; and

(iv) If the amount of unallocated TR NO_X Annual allowances remaining in the Indian country new unit set-aside for the State for such control period is less than the sum under paragraph (b)(9)(ii) of this section, then the Administrator will allocate to each such TR NO_X Annual unit the amount of the TR NO_X Annual allowances determined under paragraph (b)(9)(i) of this section for the unit, multiplied by the amount of unallocated TR NO_X Annual allowances remaining in the Indian country new unit set-aside for such control period, divided by the sum under paragraph (b)(9)(ii) of this section, and rounded to the nearest allowance.

(10) If, after completion of the procedures under paragraphs (b)(9) and (12) of this section for such control period, any unallocated TR NO_X Annual allowances remain in the Indian country new unit set-aside for the State for such control period, the Administrator will:

(i) Transfer such unallocated TR NO_X Annual allowances to the new unit set-aside for the State for such control period; or

(ii) If the State has a SIP revision approved under § 52.38(a)(4) or (5) covering such control period, include such unallocated TR NO_X Annual allowances in the portion of the State NO_X Annual trading budget that may be allocated for such control period in accordance with such SIP revision.

(11) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.411(b)(2)(iii), (iv), and (v), of the amount of TR NO_X Annual allowances allocated under paragraphs (b)(9), (10), and (12) of this section for such control period to each TR NO_X Annual unit eligible for such allocation.

(12)(i) Notwithstanding the requirements of paragraphs (b)(2) through (11) of this section, if the calculations of allocations of an Indian country new unit set-aside for a control period in a given year under paragraph (b)(7) of this section, paragraphs (b)(6) and (9)(iv) of this section, or paragraphs (b)(6), (9)(iii), and (10) of this section would otherwise result in total allocations of such Indian country new unit set-aside exceeding the total amount of such Indian country new unit set-aside, then the Administrator will adjust the

results of the calculations under paragraph (b)(7), (9)(iv), or (10) of this section, as applicable, as follows. The Administrator will list the TR NO_X Annual units in descending order based on the amount of such units' allocations under paragraph (b)(7), (9)(iv), or (10) of this section, as applicable, and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will reduce each unit's allocation under paragraph (b)(7), (9)(iv), or (10) of this section, as applicable, by one TR NO_X Annual allowance (but not below zero) in the order in which the units are listed and will repeat this reduction process as necessary, until the total allocations of such Indian country new unit set-aside equal the total amount of such Indian country new unit set-aside.

(ii) Notwithstanding the requirements of paragraphs (b)(10) and (11) of this section, if the calculations of allocations of an Indian country new unit set-aside for a control period in a given year under paragraphs (b)(6), (9)(iii), and (10) of this section would otherwise result in a total allocations of such Indian country new unit set-aside less than the total amount of such Indian country new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (b)(10) of this section, as follows. The Administrator will list the TR NO_X Annual units in descending order based on the amount of such units' allocations under paragraph (b)(10) of this section and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will increase each unit's allocation under paragraph (b)(10) of this section by one TR NO_X Annual allowance in the order in which the units are listed and will repeat this increase process as necessary, until the total allocations of such Indian country new unit set-aside equal the total amount of such Indian country new unit set-aside.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.413 Authorization of designated representative and alternate designated representative.

(a) Except as provided under § 97.415, each TR NO_X Annual source, including all TR NO_X Annual units at the source, shall have one and only one designated representative, with regard to all matters under the TR NO_X Annual Trading Program.

(1) The designated representative shall be selected by an agreement binding on the owners and operators of the source and all TR NO_X Annual units at the source and shall act in accordance with the certification statement in § 97.416(a)(4)(iii).

(2) Upon and after receipt by the Administrator of a complete certificate of representation under § 97.416:

(i) The designated representative shall be authorized and shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the source and each TR NO_X Annual unit at the source in all matters pertaining to the TR NO_X Annual Trading Program, notwithstanding any agreement between the designated representative and such owners and operators; and

(ii) The owners and operators of the source and each TR NO_X Annual unit at the source shall be bound by any decision or order issued to the designated representative by the Administrator regarding the source or any such unit.

(b) Except as provided under § 97.415, each TR NO_X Annual source may have one and only one alternate designated representative, who may act on behalf of the designated representative. The agreement by which the alternate designated representative is selected shall include a procedure for authorizing the alternate designated representative to act in lieu of the designated representative.

(1) The alternate designated representative shall be selected by an agreement binding on the owners and operators of the source and all TR NO_X Annual units at the source and shall act in accordance with the certification statement in § 97.416(a)(4)(iii).

(2) Upon and after receipt by the Administrator of a complete certificate of representation under § 97.416,

(i) The alternate designated representative shall be authorized;

(ii) Any representation, action, inaction, or submission by the alternate designated representative shall be deemed to be a representation, action, inaction, or submission by the designated representative; and

(iii) The owners and operators of the source and each TR NO_X Annual unit at the source shall be bound by any decision or order issued to the alternate designated representative by the Administrator regarding the source or any such unit.

(c) Except in this section, § 97.402, and §§ 97.414 through 97.418, whenever the term ''designated representative'' (as distinguished from the term ''common designated representative'') is used in this subpart, the term shall be construed to include the designated representative or any alternate designated representative.

§ 97.414 Responsibilities of designated representative and alternate designated representative.

(a) Except as provided under § 97.418 concerning delegation of authority to make submissions, each submission under the TR NO_X Annual Trading Program shall be made, signed, and certified by the designated representative or alternate designated representative for each TR NO_X Annual source and TR NO_X Annual unit for which the submission is made. Each such submission shall include the following certification statement by the designated representative or alternate designated representative: ''I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(b) The Administrator will accept or act on a submission made for a TR NO_X Annual source or a TR NO_X Annual unit only if the submission has been made, signed, and certified in accordance with paragraph (a) of this section and § 97.418.

§ 97.415 Changing designated representative and alternate designated representative; changes in owners and operators; changes in units at the source.

(a) *Changing designated representative.* The designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.416. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new designated representative and the owners and operators of the TR NO_X Annual source and the TR NO_X Annual units at the source.

(b) *Changing alternate designated representative.* The alternate designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.416. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new alternate designated representative, the designated representative, and the owners and operators of the TR NO_X Annual source and the TR NO_X Annual units at the source.

(c) *Changes in owners and operators.* (1) In the event an owner or operator of a TR NO_X Annual source or a TR NO_X Annual unit at the source is not included in the list of owners and operators in the certificate of representation under § 97.416, such owner or operator shall be deemed to be subject to and

bound by the certificate of representation, the representations, actions, inactions, and submissions of the designated representative and any alternate designated representative of the source or unit, and the decisions and orders of the Administrator, as if the owner or operator were included in such list.

(2) Within 30 days after any change in the owners and operators of a TR NO_X Annual source or a TR NO_X Annual unit at the source, including the addition or removal of an owner or operator, the designated representative or any alternate designated representative shall submit a revision to the certificate of representation under § 97.416 amending the list of owners and operators to reflect the change.

(d) *Changes in units at the source.* Within 30 days of any change in which units are located at a TR NO_X Annual source (including the addition or removal of a unit), the designated representative or any alternate designated representative shall submit a certificate of representation under § 97.416 amending the list of units to reflect the change.

(1) If the change is the addition of a unit that operated (other than for purposes of testing by the manufacturer before initial installation) before being located at the source, then the certificate of representation shall identify, in a format prescribed by the Administrator, the entity from whom the unit was purchased or otherwise obtained (including name, address, telephone number, and facsimile number (if any)), the date on which the unit was purchased or otherwise obtained, and the date on which the unit became located at the source.

(2) If the change is the removal of a unit, then the certificate of representation shall identify, in a format prescribed by the Administrator, the entity to which the unit was sold or that otherwise obtained the unit (including name, address, telephone number, and facsimile number (if any)), the date on which the unit was sold or otherwise obtained, and the date on which the unit became no longer located at the source.

§ 97.416 Certificate of representation.

(a) A complete certificate of representation for a designated representative or an alternate designated representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the TR NO_X Annual source, and each TR NO_X Annual unit at the source, for which the certificate of representation is submitted, including source name, source category and NAICS code (or, in the absence of a NAICS code, an equivalent code), State, plant code, county, latitude and longitude, unit identification number and type, identification number and nameplate capacity (in MWe, rounded to the nearest tenth) of each generator served by each such unit, actual or projected date of commencement of commercial operation, and a statement of whether such source is located in Indian Country. If a projected date of commencement of commercial operation is provided, the actual date of commencement of commercial operation shall be provided when such information becomes available.

(2) The name, address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the designated representative and any alternate designated representative.

(3) A list of the owners and operators of the TR NO_X Annual source and of each TR NO_X Annual unit at the source.

(4) The following certification statements by the designated representative and any alternate designated representative—

(i) ''I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the source and each TR NO_X Annual unit at the source.''

(ii) ''I certify that I have all the necessary authority to carry out my duties and responsibilities under the TR NO_X Annual Trading Program on behalf of the owners and operators of the source and of each TR NO_X Annual unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions and by any decision or

order issued to me by the Administrator regarding the source or unit.''

(iii) ''Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, a TR NO_X Annual unit, or where a utility or industrial customer purchases power from a TR NO_X Annual unit under a life-of-the-unit, firm power contractual arrangement, I certify that: I have given a written notice of my selection as the 'designated representative' or 'alternate designated representative', as applicable, and of the agreement by which I was selected to each owner and operator of the source and of each TR NO_X Annual unit at the source; and TR NO_X Annual allowances and proceeds of transactions involving TR NO_X Annual allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, except that, if such multiple holders have expressly provided for a different distribution of TR NO_X Annual allowances by contract, TR NO_X Annual allowances and proceeds of transactions involving TR NO_X Annual allowances will be deemed to be held or distributed in accordance with the contract.''

(5) The signature of the designated representative and any alternate designated representative and the dates signed.

(b) Unless otherwise required by the Administrator, documents of agreement referred to in the certificate of representation shall not be submitted to the Administrator. The Administrator shall not be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

§ 97.417 Objections concerning designated representative and alternate designated representative.

(a) Once a complete certificate of representation under § 97.416 has been submitted and received, the Administrator will rely on the certificate of representation unless and until a superseding complete certificate of representation under § 97.416 is received by the Administrator.

(b) Except as provided in paragraph (a) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission, of a designated representative or alternate designated representative shall affect any representation, action, inaction, or submission of the designated representative or alternate designated representative or the finality of any decision or order by the Administrator under the TR NO_X Annual Trading Program.

(c) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any designated representative or alternate designated representative, including private legal disputes concerning the proceeds of TR NO_X Annual allowance transfers.

§ 97.418 Delegation by designated representative and alternate designated representative.

(a) A designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(b) An alternate designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(c) In order to delegate authority to a natural person to make an electronic submission to the Administrator in accordance with paragraph (a) or (b) of this section, the designated representative or alternate designated representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(1) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such designated representative or alternate designated representative;

(2) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to in this section as an ''agent'');

(3) For each such natural person, a list of the type or types of electronic submissions under paragraph (a) or (b)

of this section for which authority is delegated to him or her; and

(4) The following certification statements by such designated representative or alternate designated representative:

(i) ''I agree that any electronic submission to the Administrator that is made by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a designated representative or alternate designated representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.418(d) shall be deemed to be an electronic submission by me.''

(ii) ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.418(d), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.418 is terminated.''.

(d) A notice of delegation submitted under paragraph (c) of this section shall be effective, with regard to the designated representative or alternate designated representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such designated representative or alternate designated representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(e) Any electronic submission covered by the certification in paragraph (c)(4)(i) of this section and made in accordance with a notice of delegation effective under paragraph (d) of this section shall be deemed to be an electronic submission by the designated representative or alternate designated representative submitting such notice of delegation.

§ 97.419 [Reserved]

§ 97.420 Establishment of compliance accounts, assurance accounts, and general accounts.

(a) *Compliance accounts.* Upon receipt of a complete certificate of representation under § 97.416, the Administrator will establish a compliance account for the TR NO_X Annual source for which the certificate of representation was submitted, unless the source already has a compliance account. The designated representative and any alternate designated representative of the source shall be the authorized account representative and the alternate authorized account representative respectively of the compliance account.

(b) *Assurance accounts.* The Administrator will establish assurance accounts for certain owners and operators and States in accordance with § 97.425(b)(3).

(c) *General accounts.* (1) Application for general account. (i) Any person may apply to open a general account, for the purpose of holding and transferring TR NO_X Annual allowances, by submitting to the Administrator a complete application for a general account. Such application shall designate one and only one authorized account representative and may designate one and only one alternate authorized account representative who may act on behalf of the authorized account representative.

(A) The authorized account representative and alternate authorized account representative shall be selected by an agreement binding on the persons who have an ownership interest with respect to TR NO_X Annual allowances held in the general account.

(B) The agreement by which the alternate authorized account representative is selected shall include a procedure for authorizing the alternate authorized account representative to act in lieu of the authorized account representative.

(ii) A complete application for a general account shall include the following elements in a format prescribed by the Administrator:

(A) Name, mailing address, e-mail address (if any), telephone number, and facsimile transmission number (if any)

of the authorized account representative and any alternate authorized account representative;

(B) An identifying name for the general account;

(C) A list of all persons subject to a binding agreement for the authorized account representative and any alternate authorized account representative to represent their ownership interest with respect to the TR NO_X Annual allowances held in the general account;

(D) The following certification statement by the authorized account representative and any alternate authorized account representative: ''I certify that I was selected as the authorized account representative or the alternate authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to TR NO_X Annual allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the TR NO_X Annual Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the Administrator regarding the general account.''

(E) The signature of the authorized account representative and any alternate authorized account representative and the dates signed.

(iii) Unless otherwise required by the Administrator, documents of agreement referred to in the application for a general account shall not be submitted to the Administrator. The Administrator shall not be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) Authorization of authorized account representative and alternate authorized account representative. (i) Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section, the Administrator will establish a general account for the person or persons for whom the application is submitted, and upon and after such receipt by the Administrator:

(A) The authorized account representative of the general account shall be authorized and shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to TR NO_X Annual allowances held in the general account in all matters pertaining to the TR NO_X Annual Trading Program, notwithstanding any agreement between the authorized account representative and such person.

(B) Any alternate authorized account representative shall be authorized, and any representation, action, inaction, or submission by any alternate authorized account representative shall be deemed to be a representation, action, inaction, or submission by the authorized account representative.

(C) Each person who has an ownership interest with respect to TR NO_X Annual allowances held in the general account shall be bound by any decision or order issued to the authorized account representative or alternate authorized account representative by the Administrator regarding the general account.

(ii) Except as provided in paragraph (c)(5) of this section concerning delegation of authority to make submissions, each submission concerning the general account shall be made, signed, and certified by the authorized account representative or any alternate authorized account representative for the persons having an ownership interest with respect to TR NO_X Annual allowances held in the general account. Each such submission shall include the following certification statement by the authorized account representative or any alternate authorized account representative: ''I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the TR NO_X Annual allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are

significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(iii) Except in this section, whenever the term ''authorized account representative'' is used in this subpart, the term shall be construed to include the authorized account representative or any alternate authorized account representative.

(3) Changing authorized account representative and alternate authorized account representative; changes in persons with ownership interest. (i) The authorized account representative of a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (c)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new authorized account representative and the persons with an ownership interest with respect to the TR NO_X Annual allowances in the general account.

(ii) The alternate authorized account representative of a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (c)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate authorized account representative, the authorized account representative, and the persons with an ownership interest with respect to the TR NO_X Annual allowances in the general account.

(iii)(A) In the event a person having an ownership interest with respect to TR NO_X Annual allowances in the general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representation, actions, inactions, and submissions of the authorized account representative and any alternate authorized account representative of the account, and the decisions and orders of the Administrator, as if the person were included in such list.

(B) Within 30 days after any change in the persons having an ownership interest with respect to NO_X Annual allowances in the general account, including the addition or removal of a person, the authorized account representative or any alternate authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the TR NO_X Annual allowances in the general account to include the change.

(4) Objections concerning authorized account representative and alternate authorized account representative. (i) Once a complete application for a general account under paragraph (c)(1) of this section has been submitted and received, the Administrator will rely on the application unless and until a superseding complete application for a general account under paragraph (b)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (c)(4)(i) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative of a general account shall affect any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative or the finality of any decision or order by the Administrator under the TR NO_X Annual Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative of a general account, including private legal disputes

concerning the proceeds of TR NO_X Annual allowance transfers.

(5) Delegation by authorized account representative and alternate authorized account representative. (i) An authorized account representative of a general account may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(ii) An alternate authorized account representative of a general account may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(iii) In order to delegate authority to a natural person to make an electronic submission to the Administrator in accordance with paragraph (c)(5)(i) or (ii) of this section, the authorized account representative or alternate authorized account representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(A) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such authorized account representative or alternate authorized account representative;

(B) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to in this section as an ''agent'');

(C) For each such natural person, a list of the type or types of electronic submissions under paragraph (c)(5)(i) or (ii) of this section for which authority is delegated to him or her;

(D) The following certification statement by such authorized account representative or alternate authorized account representative: ''I agree that any electronic submission to the Administrator that is made by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am an authorized account representative or alternate authorized representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.420(c)(5)(iv) shall be deemed to be an electronic submission by me.''; and

(E) The following certification statement by such authorized account representative or alternate authorized account representative: ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.420(c)(5)(iv), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.420(c)(5) is terminated.''.

(iv) A notice of delegation submitted under paragraph (c)(5)(iii) of this section shall be effective, with regard to the authorized account representative or alternate authorized account representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such authorized account representative or alternate authorized account representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(v) Any electronic submission covered by the certification in paragraph (c)(5)(iii)(D) of this section and made in accordance with a notice of delegation effective under paragraph (c)(5)(iv) of this section shall be deemed to be an electronic submission by the designated representative or alternate designated representative submitting such notice of delegation.

(6) Closing a general account. (i) The authorized account representative or alternate authorized account representative of a general account may submit to the Administrator a request to close the account. Such request shall include a correctly submitted TR NO_X Annual allowance transfer under § 97.422 for any TR NO_X Annual allowances in the account to one or more other Allowance Management System accounts.

(ii) If a general account has no TR NO_X Annual allowance transfers to or from the account for a 12-month period or longer and does not contain any TR

NO_X Annual allowances, the Administrator may notify the authorized account representative for the account that the account will be closed after 30 days after the notice is sent. The account will be closed after the 30-day period unless, before the end of the 30-day period, the Administrator receives a correctly submitted TR NO_X Annual allowance transfer under § 97.422 to the account or a statement submitted by the authorized account representative or alternate authorized account representative demonstrating to the satisfaction of the Administrator good cause as to why the account should not be closed.

(d) *Account identification.* The Administrator will assign a unique identifying number to each account established under paragraph (a), (b), or (c) of this section.

(e) *Responsibilities of authorized account representative and alternate authorized account representative.* After the establishment of a compliance account or general account, the Administrator will accept or act on a submission pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of TR NO_X Annual allowances in the account, only if the submission has been made, signed, and certified in accordance with §§ 97.414(a) and 97.418 or paragraphs (c)(2)(ii) and (c)(5) of this section.

§ 97.421 Recordation of TR NO_X Annual allowance allocations and auction results.

(a) By November 7, 2011, the Administrator will record in each TR NO_X Annual source's compliance account the TR NO_X Annual allowances allocated to the TR NO_X Annual units at the source in accordance with § 97.411(a) for the control period in 2015.

(b) By November 7, 2011, the Administrator will record in each TR NO_X Annual source's compliance account the TR NO_X Annual allowances allocated to the TR NO_X Annual units at the source in accordance with § 97.411(a) for the control period in 2016, unless the State in which the source is located notifies the Administrator in writing by October 17, 2011 of the State's intent to submit to the Administrator a complete SIP revision by April 1, 2015 meeting the requirements of § 52.38(a)(3)(i) through (iv) of this chapter.

(1) If, by April 1, 2015, the State does not submit to the Administrator such complete SIP revision, the Administrator will record by April 15, 2015 in each TR NO_X Annual source's compliance account the TR NO_X Annual allowances allocated to the TR NO_X Annual units at the source in accordance with § 97.411(a) for the control period in 2016.

(2) If the State submits to the Administrator by April 1, 2015, and the Administrator approves by October 1, 2015, such complete SIP revision, the Administrator will record by October 1, 2015 in each TR NO_X Annual source's compliance account the TR NO_X Annual allowances allocated to the TR NO_X Annual units at the source as provided in such approved, complete SIP revision for the control period in 2016.

(3) If the State submits to the Administrator by April 1, 2015, and the Administrator does not approve by October 1, 2015, such complete SIP revision, the Administrator will record by October 1, 2015 in each TR NO_X Annual source's compliance account the TR NO_X Annual allowances allocated to the TR NO_X Annual units at the source in accordance with § 97.411(a) for the control period in 2016.

(c) By July 1, 2016, the Administrator will record in each TR NO_X Annual source's compliance account the TR NO_X Annual allowances allocated to the TR NO_X Annual units at the source, or in each appropriate Allowance Management System account the TR NO_X Annual allowances auctioned to TR NO_X Annual units, in accordance with § 97.411(a), or with a SIP revision approved under § 52.38(a)(4) or (5) of this chapter, for the control period in 2017 and 2018.

(d) By July 1, 2017, the Administrator will record in each TR NO_X Annual source's compliance account the TR NO_X Annual allowances allocated to the TR NO_X Annual units at the source, or in each appropriate Allowance Management System account the TR NO_X Annual allowances auctioned to TR NO_X Annual units, in accordance with

§ 97.411(a), or with a SIP revision approved under § 52.38(a)(4) or (5) of this chapter, for the control period in 2019 and 2020.

(e) By July 1, 2018, the Administrator will record in each TR NO_X Annual source's compliance account the TR NO_X Annual allowances allocated to the TR NO_X Annual units at the source, or in each appropriate Allowance Management System account the TR NO_X Annual allowances auctioned to TR NO_X Annual units, in accordance with § 97.411(a), or with a SIP revision approved under § 52.38(a)(4) or (5) of this chapter, for the control period in 2021 and 2022.

(f) By July 1, 2019 and July 1 of each year thereafter, the Administrator will record in each TR NO_X Annual source's compliance account the TR NO_X Annual allowances allocated to the TR NO_X Annual units at the source, or in each appropriate Allowance Management System account the TR NO_X Annual allowances auctioned to TR NO_X Annual units, in accordance with § 97.411(a), or with a SIP revision approved under § 52.38(a)(4) or (5) of this chapter, for the control period in the fourth year after the year of the applicable recordation deadline under this paragraph.

(g) By August 1, 2015 and August 1 of each year thereafter, the Administrator will record in each TR NO_X Annual source's compliance account the TR NO_X Annual allowances allocated to the TR NO_X Annual units at the source, or in each appropriate Allowance Management System account the TR NO_X Annual allowances auctioned to TR NO_X Annual units, in accordance with § 97.412(a)(2) through (8) and (12), or with a SIP revision approved under § 52.38(a)(4) or (5) of this chapter, for the control period in the year of the applicable recordation deadline under this paragraph.

(h) By August 1, 2015 and August 1 of each year thereafter, the Administrator will record in each TR NO_X Annual source's compliance account the TR NO_X Annual allowances allocated to the TR NO_X Annual units at the source in accordance with § 97.412(b)(2) through (8) and (12) for the control period in the year of the applicable recordation deadline under this paragraph.

(i) By February 15, 2016 and February 15 of each year thereafter, the Administrator will record in each TR NO_X Annual source's compliance account the TR NO_X Annual allowances allocated to the TR NO_X Annual units at the source in accordance with § 97.412(a)(9) through (12), for the control period in the year before the year of the applicable recordation deadline under this paragraph.

(j) By the date on which any allocation or auction results, other than an allocation or auction results described in paragraphs (a) through (i) of this section, of TR NO_X Annual allowances to a recipient is made by or are submitted to the Administrator in accordance with § 97.411 or § 97.412 or with a SIP revision approved under § 52.38(a)(4) or (5) of this chapter, the Administrator will record such allocation or auction results in the appropriate Allowance Management System account.

(k) When recording the allocation or auction of TR NO_X Annual allowances to a TR NO_X Annual unit or other entity in an Allowance Management System account, the Administrator will assign each TR NO_X Annual allowance a unique identification number that will include digits identifying the year of the control period for which the TR NO_X Annual allowance is allocated or auctioned.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.422 Submission of TR NO_X Annual allowance transfers.

(a) An authorized account representative seeking recordation of a TR NO_X Annual allowance transfer shall submit the transfer to the Administrator.

(b) A TR NO_X Annual allowance transfer shall be correctly submitted if:

(1) The transfer includes the following elements, in a format prescribed by the Administrator:

(i) The account numbers established by the Administrator for both the transferor and transferee accounts;

(ii) The serial number of each TR NO_X Annual allowance that is in the transferor account and is to be transferred; and

(iii) The name and signature of the authorized account representative of the transferor account and the date signed; and

(2) When the Administrator attempts to record the transfer, the transferor account includes each TR NO_X Annual allowance identified by serial number in the transfer.

§ 97.423 Recordation of TR NO_X Annual allowance transfers.

(a) Within 5 business days (except as provided in paragraph (b) of this section) of receiving a TR NO_X Annual allowance transfer that is correctly submitted under § 97.422, the Administrator will record a TR NO_X Annual allowance transfer by moving each TR NO_X Annual allowance from the transferor account to the transferee account as specified in the transfer.

(b) A TR NO_X Annual allowance transfer to or from a compliance account that is submitted for recordation after the allowance transfer deadline for a control period and that includes any TR NO_X Annual allowances allocated for any control period before such allowance transfer deadline will not be recorded until after the Administrator completes the deductions from such compliance account under § 97.424 for the control period immediately before such allowance transfer deadline.

(c) Where a TR NO_X Annual allowance transfer is not correctly submitted under § 97.422, the Administrator will not record such transfer.

(d) Within 5 business days of recordation of a TR NO_X Annual allowance transfer under paragraphs (a) and (b) of the section, the Administrator will notify the authorized account representatives of both the transferor and transferee accounts.

(e) Within 10 business days of receipt of a TR NO_X Annual allowance transfer that is not correctly submitted under § 97.422, the Administrator will notify the authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer, and

(2) The reasons for such non-recordation.

§ 97.424 Compliance with TR NO_X Annual emissions limitation.

(a) *Availability for deduction for compliance.* TR NO_X Annual allowances are available to be deducted for compliance with a source's TR NO_X Annual emissions limitation for a control period in a given year only if the TR NO_X Annual allowances:

(1) Were allocated for such control period or a control period in a prior year; and

(2) Are held in the source's compliance account as of the allowance transfer deadline for such control period.

(b) *Deductions for compliance.* After the recordation, in accordance with § 97.423, of TR NO_X Annual allowance transfers submitted by the allowance transfer deadline for a control period in a given year, the Administrator will deduct from each source's compliance account TR NO_X Annual allowances available under paragraph (a) of this section in order to determine whether the source meets the TR NO_X Annual emissions limitation for such control period, as follows:

(1) Until the amount of TR NO_X Annual allowances deducted equals the number of tons of total NO_X emissions from all TR NO_X Annual units at the source for such control period; or

(2) If there are insufficient TR NO_X Annual allowances to complete the deductions in paragraph (b)(1) of this section, until no more TR NO_X Annual allowances available under paragraph (a) of this section remain in the compliance account.

(c)(1) *Identification of TR NO_X Annual allowances by serial number.* The authorized account representative for a source's compliance account may request that specific TR NO_X Annual allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period in a given year in accordance with paragraph (b) or (d) of this section. In order to be complete, such request shall be submitted to the Administrator by the allowance transfer deadline for such control period and include, in a format prescribed by the Administrator, the identification of the TR NO_X Annual source and the appropriate serial numbers.

(2) *First-in, first-out.* The Administrator will deduct TR NO_X Annual allowances under paragraph (b) or (d) of this section from the source's compliance account in accordance with a complete request under paragraph (c)(1) of this section or, in the absence of such request or in the case of identification of an insufficient amount of TR NO_X Annual allowances in such request, on a first-in, first-out accounting basis in the following order:

(i) Any TR NO_X Annual allowances that were allocated to the units at the source and not transferred out of the compliance account, in the order of recordation; and then

(ii) Any TR NO_X Annual allowances that were allocated to any unit and transferred to and recorded in the compliance account pursuant to this subpart, in the order of recordation.

(d) *Deductions for excess emissions.* After making the deductions for compliance under paragraph (b) of this section for a control period in a year in which the TR NO_X Annual source has excess emissions, the Administrator will deduct from the source's compliance account an amount of TR NO_X Annual allowances, allocated for a control period in a prior year or the control period in the year of the excess emissions or in the immediately following year, equal to two times the number of tons of the source's excess emissions.

(e) *Recordation of deductions.* The Administrator will record in the appropriate compliance account all deductions from such an account under paragraphs (b) and (d) of this section.

§ 97.425 Compliance with TR NO_X Annual assurance provisions.

(a) *Availability for deduction.* TR NO_X Annual allowances are available to be deducted for compliance with the TR NO_X Annual assurance provisions for a control period in a given year by the owners and operators of a group of one or more TR NO_X Annual sources and units in a State (and Indian country within the borders of such State) only if the TR NO_X Annual allowances:

(1) Were allocated for a control period in a prior year or the control period in the given year or in the immediately following year; and

(2) Are held in the assurance account, established by the Administrator for such owners and operators of such group of TR NO_X Annual sources and units in such State (and Indian country within the borders of such State) under paragraph (b)(3) of this section, as of the deadline established in paragraph (b)(4) of this section.

(b) *Deductions for compliance.* The Administrator will deduct TR NO_X Annual allowances available under paragraph (a) of this section for compliance with the TR NO_X Annual assurance provisions for a State for a control period in a given year in accordance with the following procedures:

(1) By June 1, 2018 and June 1 of each year thereafter, the Administrator will:

(i) Calculate, for each State (and Indian country within the borders of such State), the total NO_X emissions from all TR NO_X Annual units at TR NO_X Annual sources in the State (and Indian country within the borders of such State) during the control period in the year before the year of this calculation deadline and the amount, if any, by which such total NO_X emissions exceed the State assurance level as described in § 97.406(c)(2)(iii); and

(ii) Promulgate a notice of data availability of the results of the calculations required in paragraph (b)(1)(i) of this section, including separate calculations of the NO_X emissions from each TR NO_X Annual source.

(2) For each notice of data availability required in paragraph (b)(1)(ii) of this section and for any State (and Indian country within the borders of such State) identified in such notice as having TR NO_X Annual units with total NO_X emissions exceeding the State assurance level for a control period in a given year, as described in § 97.406(c)(2)(iii):

(i) By July 1 immediately after the promulgation of such notice, the designated representative of each TR NO_X Annual source in each such State (and Indian country within the borders of such State) shall submit a statement, in a format prescribed by the Administrator, providing for each TR NO_X Annual unit (if any) at the source that operates during, but is not allocated an amount of TR NO_X Annual allowances

for, such control period, the unit's allowable NO_X emission rate for such control period and, if such rate is expressed in lb per mmBtu, the unit's heat rate.

(ii) By August 1 immediately after the promulgation of such notice, the Administrator will calculate, for each such State (and Indian country within the borders of such State) and such control period and each common designated representative for such control period for a group of one or more TR NO_X Annual sources and units in the State (and Indian country within the borders of such State), the common designated representative's share of the total NO_X emissions from all TR NO_X Annual units at TR NO_X Annual sources in the State (and Indian country within the borders of such State), the common designated representative's assurance level, and the amount (if any) of TR NO_X Annual allowances that the owners and operators of such group of sources and units must hold in accordance with the calculation formula in § 97.406(c)(2)(i) and will promulgate a notice of data availability of the results of these calculations.

(iii) The Administrator will provide an opportunity for submission of objections to the calculations referenced by the notice of data availability required in paragraph (b)(2)(ii) of this section and the calculations referenced by the relevant notice of data availability required in paragraph (b)(1)(i) of this section.

(A) Objections shall be submitted by the deadline specified in such notice and shall be limited to addressing whether the calculations referenced in the relevant notice required under paragraph (b)(1)(ii) of this section and referenced in the notice required under paragraph (b)(2)(ii) of this section are in accordance with § 97.406(c)(2)(iii), §§ 97.406(b) and 97.430 through 97.435, the definitions of ''common designated representative'', ''common designated representative's assurance level'', and ''common designated representative's share'' in § 97.402, and the calculation formula in § 97.406(c)(2)(i).

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(2)(iii)(A) of this section. By October 1 immediately after the promulgation of such notice, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(iii)(A) of this section.

(3) For any State (and Indian country within the borders of such State) referenced in each notice of data availability required in paragraph (b)(2)(iii)(B) of this section as having TR NO_X Annual units with total NO_X emissions exceeding the State assurance level for a control period in a given year, the Administrator will establish one assurance account for each set of owners and operators referenced, in the notice of data availability required under paragraph (b)(2)(iii)(B) of this section, as all of the owners and operators of a group of TR NO_X Annual sources and units in the State (and Indian country within the borders of such State) having a common designated representative for such control period and as being required to hold TR NO_X Annual allowances.

(4)(i) As of midnight of November 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii)(B) of this section, the owners and operators described in paragraph (b)(3) of this section shall hold in the assurance account established for the them and for the appropriate TR NO_X Annual sources, TR NO_X Annual units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section a total amount of TR NO_X Annual allowances, available for deduction under paragraph (a) of this section, equal to the amount such owners and operators are required to hold with regard to such sources, units and State (and Indian country within the borders of such State) as calculated by the Administrator and referenced in such notice.

(ii) Notwithstanding the allowance-holding deadline specified in paragraph (b)(4)(i) of this section, if November 1 is

not a business day, then such allowance-holding deadline shall be midnight of the first business day thereafter.

(5) After November 1 (or the date described in paragraph (b)(4)(ii) of this section) immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii)(B) of this section and after the recordation, in accordance with § 97.423, of TR NO_X Annual allowance transfers submitted by midnight of such date, the Administrator will determine whether the owners and operators described in paragraph (b)(3) of this section hold, in the assurance account for the appropriate TR NO_X Annual sources, TR NO_X Annual units, and State (and Indian country within the borders of such State) established under paragraph (b)(3) of this section, the amount of TR NO_X Annual allowances available under paragraph (a) of this section that the owners and operators are required to hold with regard to such sources, units, and State (and Indian country within the borders of such State) as calculated by the Administrator and referenced in the notice required in paragraph (b)(2)(iii)(B) of this section.

(6) Notwithstanding any other provision of this subpart and any revision, made by or submitted to the Administrator after the promulgation of the notice of data availability required in paragraph (b)(2)(iii)(B) of this section for a control period in a given year, of any data used in making the calculations referenced in such notice, the amounts of TR NO_X Annual allowances that the owners and operators are required to hold in accordance with § 97.406(c)(2)(i) for such control period shall continue to be such amounts as calculated by the Administrator and referenced in such notice required in paragraph (b)(2)(iii)(B) of this section, except as follows:

(i) If any such data are revised by the Administrator as a result of a decision in or settlement of litigation concerning such data on appeal under part 78 of this chapter of such notice, or on appeal under section 307 of the Clean Air Act of a decision rendered under part 78 of this chapter on appeal of such notice, then the Administrator will use the data as so revised to recalculate the amounts of TR NO_X Annual allowances that owners and operators are required to hold in accordance with the calculation formula in § 97.406(c)(2)(i) for such control period with regard to the TR NO_X Annual sources, TR NO_X Annual units, and State (and Indian country within the borders of such State) involved, provided that such litigation under part 78 of this chapter, or the proceeding under part 78 of this chapter that resulted in the decision appealed in such litigation under section 307 of the Clean Air Act, was initiated no later than 30 days after promulgation of such notice required in paragraph (b)(2)(iii)(B) of this section.

(ii) If any such data are revised by the owners and operators of a TR NO_X Annual source and TR NO_X Annual unit whose designated representative submitted such data under paragraph (b)(2)(i) of this section, as a result of a decision in or settlement of litigation concerning such submission, then the Administrator will use the data as so revised to recalculate the amounts of TR NO_X Annual allowances that owners and operators are required to hold in accordance with the calculation formula in § 97.406(c)(2)(i) for such control period with regard to the TR NO_X Annual sources, TR NO_X Annual units, and State (and Indian country within the borders of such State) involved, provided that such litigation was initiated no later than 30 days after promulgation of such notice required in paragraph (b)(2)(iii)(B) of this section.

(iii) If the revised data are used to recalculate, in accordance with paragraphs (b)(6)(i) and (ii) of this section, the amount of TR NO_X Annual allowances that the owners and operators are required to hold for such control period with regard to the TR NO_X Annual sources, TR NO_X Annual units, and State (and Indian country within the borders of such State) involved—

(A) Where the amount of TR NO_X Annual allowances that the owners and operators are required to hold increases as a result of the use of all such revised data, the Administrator will establish a new, reasonable deadline on which the owners and operators shall hold the additional amount of TR NO_X

Annual allowances in the assurance account established by the Administrator for the appropriate TR NO_X Annual sources, TR NO_X Annual units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section. The owners' and operators' failure to hold such additional amount, as required, before the new deadline shall not be a violation of the Clean Air Act. The owners' and operators' failure to hold such additional amount, as required, as of the new deadline shall be a violation of the Clean Air Act. Each TR NO_X Annual allowance that the owners and operators fail to hold as required as of the new deadline, and each day in such control period, shall be a separate violation of the Clean Air Act.

(B) For the owners and operators for which the amount of TR NO_X Annual allowances required to be held decreases as a result of the use of all such revised data, the Administrator will record, in all accounts from which TR NO_X Annual allowances were transferred by such owners and operators for such control period to the assurance account established by the Administrator for the appropriate at TR NO_X Annual sources, TR NO_X Annual units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section, a total amount of the TR NO_X Annual allowances held in such assurance account equal to the amount of the decrease. If TR NO_X Annual allowances were transferred to such assurance account from more than one account, the amount of TR NO_X Annual allowances recorded in each such transferor account will be in proportion to the percentage of the total amount of TR NO_X Annual allowances transferred to such assurance account for such control period from such transferor account.

(C) Each TR NO_X Annual allowance held under paragraph (b)(6)(iii)(A) of this section as a result of recalculation of requirements under the TR NO_X Annual assurance provisions for such control period must be a TR NO_X Annual allowance allocated for a control period in a year before or the year immediately following, or in the same year as, the year of such control period.

[76 FR 48379, Aug. 8, 2011, as amended at 77 FR 10336, Feb. 21, 2012; 79 FR 71672, Dec. 3, 2014]

§ 97.426 Banking.

(a) A TR NO_X Annual allowance may be banked for future use or transfer in a compliance account or a general account in accordance with paragraph (b) of this section.

(b) Any TR NO_X Annual allowance that is held in a compliance account or a general account will remain in such account unless and until the TR NO_X Annual allowance is deducted or transferred under § 97.411(c), § 97.423, § 97.424, § 97.425, 97.427, or 97.428.

§ 97.427 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any Allowance Management System account. Within 10 business days of making such correction, the Administrator will notify the authorized account representative for the account.

§ 97.428 Administrator's action on submissions.

(a) The Administrator may review and conduct independent audits concerning any submission under the TR NO_X Annual Trading Program and make appropriate adjustments of the information in the submission.

(b) The Administrator may deduct TR NO_X Annual allowances from or transfer TR NO_X Annual allowances to a compliance account or an assurance account, based on the information in a submission, as adjusted under paragraph (a)(1) of this section, and record such deductions and transfers.

§ 97.429 [Reserved]

§ 97.430 General monitoring, recordkeeping, and reporting requirements.

The owners and operators, and to the extent applicable, the designated representative, of a TR NO_X Annual unit, shall comply with the monitoring, recordkeeping, and reporting requirements as provided in this subpart and subpart H of part 75 of this chapter.

For purposes of applying such requirements, the definitions in § 97.402 and in § 72.2 of this chapter shall apply, the terms ''affected unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') in part 75 of this chapter shall be deemed to refer to the terms ''TR NO_X Annual unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') respectively as defined in § 97.402, and the term ''newly affected unit'' shall be deemed to mean ''newly affected TR NO_X Annual unit''. The owner or operator of a unit that is not a TR NO_X Annual unit but that is monitored under § 75.72(b)(2)(ii) of this chapter shall comply with the same monitoring, recordkeeping, and reporting requirements as a TR NO_X Annual unit.

(a) *Requirements for installation, certification, and data accounting.* The owner or operator of each TR NO_X Annual unit shall:

(1) Install all monitoring systems required under this subpart for monitoring NO_X mass emissions and individual unit heat input (including all systems required to monitor NO_X emission rate, NO_X concentration, stack gas moisture content, stack gas flow rate, CO_2 or O_2 concentration, and fuel flow rate, as applicable, in accordance with §§ 75.71 and 75.72 of this chapter);

(2) Successfully complete all certification tests required under § 97.431 and meet all other requirements of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraph (a)(1) of this section; and

(3) Record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section.

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the following dates and shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the following dates.

(1) For the owner or operator of a TR NO_X Annual unit that commences commercial operation before July 1, 2014, January 1, 2015;

(2) For the owner or operator of a TR NO_X Annual unit that commences commercial operation on or after July 1, 2014, the later of the following:

(i) January 1, 2015; or

(ii) 180 calendar days after the date on which the unit commences commercial operation;

(3) The owner or operator of a TR NO_X Annual unit for which construction of a new stack or flue or installation of add-on NO_X emission controls is completed after the applicable deadline under paragraph (b)(1) or (2) of this section shall meet the requirements of §§ 75.4(e)(1) through (e)(4) of this chapter, except that:

(i) Such requirements shall apply to the monitoring systems required under § 97.430 through § 97.435, rather than the monitoring systems required under part 75 of this chapter;

(ii) NO_X emission rate, NO_X concentration, stack gas moisture content, stack gas volumetric flow rate, and O_2 or CO_2 concentration data shall be determined and reported, rather than the data listed in § 75.4(e)(2) of this chapter; and

(iii) Any petition for another procedure under § 75.4(e)(2) of this chapter shall be submitted under § 97.435, rather than § 75.66.

(c) *Reporting data.* The owner or operator of a TR NO_X Annual unit that does not meet the applicable compliance date set forth in paragraph (b) of this section for any monitoring system under paragraph (a)(1) of this section shall, for each such monitoring system, determine, record, and report maximum potential (or, as appropriate, minimum potential) values for NO_X concentration, NO_X emission rate, stack gas flow rate, stack gas moisture content, fuel flow rate, and any other parameters required to determine NO_X mass emissions and heat input in accordance with § 75.31(b)(2) or (c)(3) of this chapter, section 2.4 of appendix D to part 75 of this chapter, or section 2.5 of appendix E to part 75 of this chapter, as applicable.

(d) *Prohibitions.* (1) No owner or operator of a TR NO_X Annual unit shall use any alternative monitoring system, alternative reference method, or any

other alternative to any requirement of this subpart without having obtained prior written approval in accordance with § 97.435.

(2) No owner or operator of a TR NO_X Annual unit shall operate the unit so as to discharge, or allow to be discharged, NO_X to the atmosphere without accounting for all such NO_X in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(3) No owner or operator of a TR NO_X Annual unit shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording NO_X mass discharged into the atmosphere or heat input, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(4) No owner or operator of a TR NO_X Annual unit shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by an exemption under § 97.405 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the Administrator for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The designated representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with § 97.431(d)(3)(i).

(e) *Long-term cold storage.* The owner or operator of a TR NO_X Annual unit is subject to the applicable provisions of § 75.4(d) of this chapter concerning units in long-term cold storage.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.431 Initial monitoring system certification and recertification procedures.

(a) The owner or operator of a TR NO_X Annual unit shall be exempt from the initial certification requirements of this section for a monitoring system under § 97.430(a)(1) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with part 75 of this chapter; and

(2) The applicable quality-assurance and quality-control requirements of § 75.21 of this chapter and appendices B, D, and E to part 75 of this chapter are fully met for the certified monitoring system described in paragraph (a)(1) of this section.

(b) The recertification provisions of this section shall apply to a monitoring system under § 97.430(a)(1) that is exempt from initial certification requirements under paragraph (a) of this section.

(c) If the Administrator has previously approved a petition under § 75.17(a) or (b) of this chapter for apportioning the NO_X emission rate measured in a common stack or a petition under § 75.66 of this chapter for an alternative to a requirement in § 75.12 or § 75.17 of this chapter, the designated representative shall resubmit the petition to the Administrator under § 97.435 to determine whether the approval applies under the TR NO_X Annual Trading Program.

(d) Except as provided in paragraph (a) of this section, the owner or operator of a TR NO_X Annual unit shall comply with the following initial certification and recertification procedures for a continuous monitoring system (*i.e.*, a continuous emission monitoring system and an excepted monitoring system under appendices D and E to part 75 of this chapter) under § 97.430(a)(1). The owner or operator of a unit that qualifies to use the low mass emissions excepted monitoring methodology under § 75.19 of this chapter or that qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall comply with the procedures in paragraph (e) or (f) of this section respectively.

(1) Requirements for initial certification. The owner or operator shall ensure that each continuous monitoring system under § 97.430(a)(1) (including the automated data acquisition and handling system) successfully completes all of the initial certification testing required under § 75.20 of this chapter by the applicable deadline in § 97.430(b). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this subpart in a location where no such monitoring system was previously installed, initial certification in accordance with § 75.20 of this chapter is required.

(2) Requirements for recertification. Whenever the owner or operator makes a replacement, modification, or change in any certified continuous emission monitoring system under § 97.430(a)(1) that may significantly affect the ability of the system to accurately measure or record NO_X mass emissions or heat input rate or to meet the quality-assurance and quality-control requirements of § 75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the monitoring system in accordance with § 75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify each continuous emission monitoring system whose accuracy is potentially affected by the change, in accordance with § 75.20(b) of this chapter. Examples of changes to a continuous emission monitoring system that require recertification include replacement of the analyzer, complete replacement of an existing continuous emission monitoring system, or change in location or orientation of the sampling probe or site. Any fuel flowmeter system, and any excepted NO_X monitoring system under appendix E to part 75 of this chapter, under § 97.430(a)(1) are subject to the recertification requirements in § 75.20(g)(6) of this chapter.

(3) Approval process for initial certification and recertification. For initial certification of a continuous monitoring system under § 97.430(a)(1), paragraphs (d)(3)(i) through (v) of this section apply. For recertifications of such monitoring systems, paragraphs (d)(3)(i) through (iv) of this section and the procedures in §§ 75.20(b)(5) and (g)(7) of this chapter (in lieu of the procedures in paragraph (d)(3)(v) of this section) apply, provided that in applying paragraphs (d)(3)(i) through (iv) of this section, the words ''certification'' and ''initial certification'' are replaced by the word ''recertification'' and the word ''certified'' is replaced by with the word ''recertified''.

(i) Notification of certification. The designated representative shall submit to the appropriate EPA Regional Office and the Administrator written notice of the dates of certification testing, in accordance with § 97.433.

(ii) Certification application. The designated representative shall submit to the Administrator a certification application for each monitoring system. A complete certification application shall include the information specified in § 75.63 of this chapter.

(iii) Provisional certification date. The provisional certification date for a monitoring system shall be determined in accordance with § 75.20(a)(3) of this chapter. A provisionally certified monitoring system may be used under the TR NO_X Annual Trading Program for a period not to exceed 120 days after receipt by the Administrator of the complete certification application for the monitoring system under paragraph (d)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the Administrator does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of the date of receipt of the complete certification application by the Administrator.

(iv) Certification application approval process. The Administrator will issue a written notice of approval or disapproval of the certification application to the owner or operator within

120 days of receipt of the complete certification application under paragraph (d)(3)(ii) of this section. In the event the Administrator does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the TR NO_X Annual Trading Program.

(A) Approval notice. If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of part 75 of this chapter, then the Administrator will issue a written notice of approval of the certification application within 120 days of receipt.

(B) Incomplete application notice. If the certification application is not complete, then the Administrator will issue a written notice of incompleteness that sets a reasonable date by which the designated representative must submit the additional information required to complete the certification application. If the designated representative does not comply with the notice of incompleteness by the specified date, then the Administrator may issue a notice of disapproval under paragraph (d)(3)(iv)(C) of this section.

(C) Disapproval notice. If the certification application shows that any monitoring system does not meet the performance requirements of part 75 of this chapter or if the certification application is incomplete and the requirement for disapproval under paragraph (d)(3)(iv)(B) of this section is met, then the Administrator will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the Administrator and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification (as defined under § 75.20(a)(3) of this chapter).

(D) Audit decertification. The Administrator may issue a notice of disapproval of the certification status of a monitor in accordance with § 97.432(b).

(v) Procedures for loss of certification. If the Administrator issues a notice of disapproval of a certification application under paragraph (d)(3)(iv)(C) of this section or a notice of disapproval of certification status under paragraph (d)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each disapproved monitoring system, for each hour of unit operation during the period of invalid data specified under § 75.20(a)(4)(iii), § 75.20(g)(7), or § 75.21(e) of this chapter and continuing until the applicable date and hour specified under § 75.20(a)(5)(i) or (g)(7) of this chapter:

(*1*) For a disapproved NO_X emission rate (*i.e.*, NO_X-diluent) system, the maximum potential NO_X emission rate, as defined in § 72.2 of this chapter.

(*2*) For a disapproved NO_X pollutant concentration monitor and disapproved flow monitor, respectively, the maximum potential concentration of NO_X and the maximum potential flow rate, as defined in sections 2.1.2.1 and 2.1.4.1 of appendix A to part 75 of this chapter.

(*3*) For a disapproved moisture monitoring system and disapproved diluent gas monitoring system, respectively, the minimum potential moisture percentage and either the maximum potential CO_2 concentration or the minimum potential O_2 concentration (as applicable), as defined in sections 2.1.5, 2.1.3.1, and 2.1.3.2 of appendix A to part 75 of this chapter.

(*4*) For a disapproved fuel flowmeter system, the maximum potential fuel flow rate, as defined in section 2.4.2.1 of appendix D to part 75 of this chapter.

(*5*) For a disapproved excepted NO_X monitoring system under appendix E to part 75 of this chapter, the fuel-specific maximum potential NO_X emission rate, as defined in § 72.2 of this chapter.

(B) The designated representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (d)(3)(i) and (ii) of this section.

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the Administrator's notice of disapproval,

no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(e) The owner or operator of a unit qualified to use the low mass emissions (LME) excepted methodology under § 75.19 of this chapter shall meet the applicable certification and recertification requirements in §§ 75.19(a)(2) and 75.20(h) of this chapter. If the owner or operator of such a unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall also meet the certification and recertification requirements in § 75.20(g) of this chapter.

(f) The designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator under subpart E of part 75 of this chapter shall comply with the applicable notification and application procedures of § 75.20(f) of this chapter.

§ 97.432 Monitoring system out-of-control periods.

(a) *General provisions.* Whenever any monitoring system fails to meet the quality-assurance and quality-control requirements or data validation requirements of part 75 of this chapter, data shall be substituted using the applicable missing data procedures in subpart D or subpart H of, or appendix D or appendix E to, part 75 of this chapter.

(b) *Audit decertification.* Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under § 97.431 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the Administrator will issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the Administrator or any State or permitting authority. By issuing the notice of disapproval, the Administrator revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the applicable initial certification or recertification procedures in § 97.431 for each disapproved monitoring system.

§ 97.433 Notifications concerning monitoring.

The designated representative of a TR NO_X Annual unit shall submit written notice to the Administrator in accordance with § 75.61 of this chapter.

§ 97.434 Recordkeeping and reporting.

(a) *General provisions.* The designated representative shall comply with all recordkeeping and reporting requirements in paragraphs (b) through (e) of this section, the applicable recordkeeping and reporting requirements under § 75.73 of this chapter, and the requirements of § 97.414(a).

(b) *Monitoring plans.* The owner or operator of a TR NO_X Annual unit shall comply with requirements of § 75.73(c) and (e) of this chapter.

(c) *Certification applications.* The designated representative shall submit an application to the Administrator within 45 days after completing all initial certification or recertification tests required under § 97.431, including the information required under § 75.63 of this chapter.

(d) *Quarterly reports.* The designated representative shall submit quarterly reports, as follows:

(1) The designated representative shall report the NO_X mass emissions data and heat input data for the TR NO_X Annual unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(i) For a unit that commences commercial operation before July 1, 2014, the calendar quarter covering January 1, 2015 through March 31, 2015; or

(ii) For a unit that commences commercial operation on or after July 1, 2014, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.430(b), unless that quarter is the third or fourth quarter of 2014, in which case reporting shall commence in the quarter covering January 1, 2015 through March 31, 2015.

(2) The designated representative shall submit each quarterly report to the Administrator within 30 days after the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in § 75.73(f) of this chapter.

(3) For TR NO_X Annual units that are also subject to the Acid Rain Program, TR NO_X Ozone Season Trading Program, TR SO_2 Group 1 Trading Program, or TR SO_2 Group 2 Trading Program, quarterly reports shall include the applicable data and information required by subparts F through H of part 75 of this chapter as applicable, in addition to the NO_X mass emission data, heat input data, and other information required by this subpart.

(4) The Administrator may review and conduct independent audits of any quarterly report in order to determine whether the quarterly report meets the requirements of this subpart and part 75 of this chapter, including the requirement to use substitute data.

(i) The Administrator will notify the designated representative of any determination that the quarterly report fails to meet any such requirements and specify in such notification any corrections that the Administrator believes are necessary to make through resubmission of the quarterly report and a reasonable time period within which the designated representative must respond. Upon request by the designated representative, the Administrator may specify reasonable extensions of such time period. Within the time period (including any such extensions) specified by the Administrator, the designated representative shall resubmit the quarterly report with the corrections specified by the Administrator, except to the extent the designated representative provides information demonstrating that a specified correction is not necessary because the quarterly report already meets the requirements of this subpart and part 75 of this chapter that are relevant to the specified correction.

(ii) Any resubmission of a quarterly report shall meet the requirements applicable to the submission of a quarterly report under this subpart and part 75 of this chapter, except for the deadline set forth in paragraph (d)(2) of this section.

(e) *Compliance certification*. The designated representative shall submit to the Administrator a compliance certification (in a format prescribed by the Administrator) in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(1) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications; and

(2) For a unit with add-on NO_X emission controls and for all hours where NO_X data are substituted in accordance with § 75.34(a)(1) of this chapter, the add-on emission controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B to part 75 of this chapter and the substitute data values do not systematically underestimate NO_X emissions.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.435 Petitions for alternatives to monitoring, recordkeeping, or reporting requirements.

(a) The designated representative of a TR NO_X Annual unit may submit a petition under § 75.66 of this chapter to the Administrator, requesting approval to apply an alternative to any requirement of §§ 97.430 through 97.434.

(b) A petition submitted under paragraph (a) of this section shall include sufficient information for the evaluation of the petition, including, at a minimum, the following information:

(i) Identification of each unit and source covered by the petition;

(ii) A detailed explanation of why the proposed alternative is being suggested in lieu of the requirement;

(iii) A description and diagram of any equipment and procedures used in the proposed alternative;

(iv) A demonstration that the proposed alternative is consistent with the purposes of the requirement for which the alternative is proposed and with the purposes of this subpart and part 75 of this chapter and that any adverse effect of approving the alternative will be *de minimis;* and

(v) Any other relevant information that the Administrator may require.

(c) Use of an alternative to any requirement referenced in paragraph (a) of this section is in accordance with this subpart only to the extent that the petition is approved in writing by the Administrator and that such use is in accordance with such approval.

Subpart BBBBB—TR NO_X Ozone Season Trading Program

SOURCE: 76 FR 48406, Aug. 8, 2011, unless otherwise noted.

§ 97.501 Purpose.

This subpart sets forth the general, designated representative, allowance, and monitoring provisions for the Transport Rule (TR) NO_X Ozone Season Trading Program, under section 110 of the Clean Air Act and § 52.38 of this chapter, as a means of mitigating interstate transport of ozone and nitrogen oxides.

§ 97.502 Definitions.

The terms used in this subpart shall have the meanings set forth in this section as follows:

Acid Rain Program means a multistate SO_2 and NO_X air pollution control and emission reduction program established by the Administrator under title IV of the Clean Air Act and parts 72 through 78 of this chapter.

Administrator means the Administrator of the United States Environmental Protection Agency or the Director of the Clean Air Markets Division (or its successor determined by the Administrator) of the United States Environmental Protection Agency, the Administrator's duly authorized representative under this subpart.

Allocate or *allocation* means, with regard to TR NO_X Ozone Season allowances, the determination by the Administrator, State, or permitting authority, in accordance with this subpart and any SIP revision submitted by the State and approved by the Administrator under § 52.38(b)(3), (4), or (5) of this chapter, of the amount of such TR NO_X Ozone Season allowances to be initially credited, at no cost to the recipient, to:

(1) A TR NO_X Ozone Season unit;

(2) A new unit set-aside;

(3) An Indian country new unit set-aside; or

(4) An entity not listed in paragraphs (1) through (3) of this definition;

(5) Provided that, if the Administrator, State, or permitting authority initially credits, to a TR NO_X Ozone Season unit qualifying for an initial credit, a credit in the amount of zero TR NO_X Ozone Season allowances, the TR NO_X Ozone Season unit will be treated as being allocated an amount (*i.e.*, zero) of TR NO_X Ozone Season allowances.

Allowable NO_X emission rate means, for a unit, the most stringent State or federal NO_X emission rate limit (in lb/MWhr or, if in lb/mmBtu, converted to lb/MWhr by multiplying it by the unit's heat rate in mmBtu/MWhr) that is applicable to the unit and covers the longest averaging period not exceeding one year.

Allowance Management System means the system by which the Administrator records allocations, deductions, and transfers of TR NO_X Ozone Season allowances under the TR NO_X Ozone Season Trading Program. Such allowances are allocated, recorded, held, deducted, or transferred only as whole allowances.

Allowance Management System account means an account in the Allowance Management System established by the Administrator for purposes of recording the allocation, holding, transfer, or deduction of TR NO_X Ozone Season allowances.

Allowance transfer deadline means, for a control period in a given year, midnight of December 1 (if it is a business day), or midnight of the first business

day thereafter (if December 1 is not a business day), immediately after such control period and is the deadline by which a TR NO_X Ozone Season allowance transfer must be submitted for recordation in a TR NO_X Ozone Season source's compliance account in order to be available for use in complying with the source's TR NO_X Ozone Season emissions limitation for such control period in accordance with §§ 97.506 and 97.524.

Alternate designated representative means, for a TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to act on behalf of the designated representative in matters pertaining to the TR NO_X Ozone Season Trading Program. If the TR NO_X Ozone Season source is also subject to the Acid Rain Program, TR NO_X Annual Trading Program, TR SO_2 Group 1 Trading Program, or TR SO_2 Group 2 Trading Program, then this natural person shall be the same natural person as the alternate designated representative, as defined in the respective program.

Assurance account means an Allowance Management System account, established by the Administrator under § 97.525(b)(3) for certain owners and operators of a group of one or more TR NO_X Ozone Season sources and units in a given State (and Indian country within the borders of such State), in which are held TR NO_X Ozone Season allowances available for use for a control period in a given year in complying with the TR NO_X Ozone Season assurance provisions in accordance with §§ 97.506 and 97.525.

Authorized account representative means, for a general account, the natural person who is authorized, in accordance with this subpart, to transfer and otherwise dispose of TR NO_X Ozone Season allowances held in the general account and, for a TR NO_X Ozone Season source's compliance account, the designated representative of the source.

Automated data acquisition and handling system or *DAHS* means the component of the continuous emission monitoring system, or other emissions monitoring system approved for use under this subpart, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by this subpart.

Biomass means—

(1) Any organic material grown for the purpose of being converted to energy;

(2) Any organic byproduct of agriculture that can be converted into energy; or

(3) Any material that can be converted into energy and is nonmerchantable for other purposes, that is segregated from other material that is nonmerchantable for other purposes, and that is;

(i) A forest-related organic resource, including mill residues, precommercial thinnings, slash, brush, or byproduct from conversion of trees to merchantable material; or

(ii) A wood material, including pallets, crates, dunnage, manufacturing and construction materials (other than pressure-treated, chemically-treated, or painted wood products), and landscape or right-of-way tree trimmings.

Boiler means an enclosed fossil- or other-fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

Bottoming-cycle unit means a unit in which the energy input to the unit is first used to produce useful thermal energy, where at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

Business day means a day that does not fall on a weekend or a federal holiday.

Certifying official means a natural person who is:

(1) For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy- or decision-making functions for the corporation;

(2) For a partnership or sole proprietorship, a general partner or the proprietor respectively; or

(3) For a local government entity or State, federal, or other public agency, a principal executive officer or ranking elected official.

Clean Air Act means the Clean Air Act, 42 U.S.C. 7401, *et seq*.

Coal means ''coal'' as defined in § 72.2 of this chapter.

Coal-derived fuel means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal, or chemical processing of coal.

Cogeneration system means an integrated group, at a source, of equipment (including a boiler, or combustion turbine, and a steam turbine generator) designed to produce useful thermal energy for industrial, commercial, heating, or cooling purposes and electricity through the sequential use of energy.

Cogeneration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a topping-cycle unit or a bottoming-cycle unit:

(1) Operating as part of a cogeneration system; and

(2) Producing on an annual average basis—

(i) For a topping-cycle unit,

(A) Useful thermal energy not less than 5 percent of total energy output; and

(B) Useful power that, when added to one-half of useful thermal energy produced, is not less than 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output.

(ii) For a bottoming-cycle unit, useful power not less than 45 percent of total energy input;

(3) Provided that the requirements in paragraph (2) of this definition shall not apply to a calendar year referenced in paragraph (2) of this definition during which the unit did not operate at all;

(4) Provided that the total energy input under paragraphs (2)(i)(B) and (2)(ii) of this definition shall equal the unit's total energy input from all fuel, except biomass if the unit is a boiler; and

(5) Provided that, if, throughout its operation during the 12-month period or a calendar year referenced in paragraph (2) of this definition, a unit is operated as part of a cogeneration system and the cogeneration system meets on a system-wide basis the requirement in paragraph (2)(i)(B) or (2)(ii) of this definition, the unit shall be deemed to meet such requirement during that 12-month period or calendar year.

Combustion turbine means an enclosed device comprising:

(1) If the device is simple cycle, a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and

(2) If the device is combined cycle, the equipment described in paragraph (1) of this definition and any associated duct burner, heat recovery steam generator, and steam turbine.

Commence commercial operation means, with regard to a unit:

(1) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in § 97.505.

(i) For a unit that is a TR NO_X Ozone Season unit under § 97.504 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in the introductory text of paragraph (1) of this definition and that subsequently undergoes a physical change or is moved to a new location or source, such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a TR NO_X Ozone Season unit under § 97.504 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in the introductory text of paragraph (1) of this definition and that is subsequently replaced by a unit at the same or a different source, such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in

paragraph (1) or (2) of this definition as appropriate.

(2) Notwithstanding paragraph (1) of this definition and except as provided in § 97.505, for a unit that is not a TR NO_X Ozone Season unit under § 97.504 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in introductory text of paragraph (1) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a TR NO_X Ozone Season unit under § 97.504.

(i) For a unit with a date for commencement of commercial operation as defined in the introductory text of paragraph (2) of this definition and that subsequently undergoes a physical change or is moved to a different location or source, such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in the introductory text of paragraph (2) of this definition and that is subsequently replaced by a unit at the same or a different source, such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

Common designated representative means, with regard to a control period in a given year, a designated representative where, as of April 1 immediately after the allowance transfer deadline for such control period, the same natural person is authorized under §§ 97.513(a) and 97.515(a) as the designated representative for a group of one or more TR NO_X Ozone Season sources and units located in a State (and Indian country within the borders of such State).

Common designated representative's assurance level means, with regard to a specific common designated representative and a State (and Indian country within the borders of such State) and control period in a given year for which the State assurance level is exceeded as described in § 97.506(c)(2)(iii), the common designated representative's share of the State NO_X Ozone Season trading budget with the variability limit for the State for such control period.

Common designated representative's share means, with regard to a specific common designated representative for a control period in a given year:

(1) With regard to a total amount of NO_X emissions from all TR NO_X Ozone Season units in a State (and Indian country within the borders of such State) during such control period, the total tonnage of NO_X emissions during such control period from a group of one or more TR NO_X Ozone Season units located in such State (and such Indian country) and having the common designated representative for such control period;

(2) With regard to a State NO_X Ozone Season trading budget with the variability limit for such control period, the amount (rounded to the nearest allowance) equal to the sum of the total amount of TR NO_X Ozone Season allowances allocated for such control period to a group of one or more TR NO_X Ozone Season units located in the State (and Indian country within the borders of such State) and having the common designated representative for such control period and of the total amount of TR NO_X Ozone Season allowances purchased by an owner or operator of such TR NO_X Ozone Season units in an auction for such control period and submitted by the State or the permitting authority to the Administrator for recordation in the compliance accounts for such TR NO_X Ozone Season units in accordance with the TR NO_X Ozone Season allowance auction provisions in a SIP revision approved by the Administrator under § 52.38(b)(4) or (5) of this chapter, multiplied by the sum of the State NO_X Ozone Season trading budget under § 97.510(a) and the State's variability limit under § 97.510(b) for such control period and divided by such State NO_X Ozone Season trading budget;

(3) Provided that, in the case of a unit that operates during, but has no amount of TR NO_X Ozone Season allowances allocated under §§ 97.511 and 97.512 for, such control period, the unit

shall be treated, solely for purposes of this definition, as being allocated an amount (rounded to the nearest allowance) of TR NO_X Ozone Season allowances for such control period equal to the unit's allowable NO_X emission rate applicable to such control period, multiplied by a capacity factor of 0.92 (if the unit is a boiler combusting any amount of coal or coal-derived fuel during such control period), 0.32 (if the unit is a simple combustion turbine during such control period), 0.71 (if the unit is a combined cycle turbine during such control period), 0.73 (if the unit is an integrated coal gasification combined cycle unit during such control period), or 0.44 (for any other unit), multiplied by the unit's maximum hourly load as reported in accordance with this subpart and by 3,672 hours/control period, and divided by 2,000 lb/ton.

Common stack means a single flue through which emissions from 2 or more units are exhausted.

Compliance account means an Allowance Management System account, established by the Administrator for a TR NO_X Ozone Season source under this subpart, in which any TR NO_X Ozone Season allowance allocations to the TR NO_X Ozone Season units at the source are recorded and in which are held any TR NO_X Ozone Season allowances available for use for a control period in a given year in complying with the source's TR NO_X Ozone Season emissions limitation in accordance with §§ 97.506 and 97.524.

Continuous emission monitoring system or *CEMS* means the equipment required under this subpart to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes and using an automated data acquisition and handling system (DAHS), a permanent record of NO_X emissions, stack gas volumetric flow rate, stack gas moisture content, and O_2 or CO_2 concentration (as applicable), in a manner consistent with part 75 of this chapter and §§ 97.530 through 97.535. The following systems are the principal types of continuous emission monitoring systems:

(1) A flow monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);

(2) A NO_X concentration monitoring system, consisting of a NO_X pollutant concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X emissions, in parts per million (ppm);

(3) A NO_X emission rate (or NO_X-diluent) monitoring system, consisting of a NO_X pollutant concentration monitor, a diluent gas (CO_2 or O_2) monitor, and an automated data acquisition and handling system and providing a permanent, continuous record of NO_X concentration, in parts per million (ppm), diluent gas concentration, in percent CO_2 or O_2, and NO_X emission rate, in pounds per million British thermal units (lb/mmBtu);

(4) A moisture monitoring system, as defined in § 75.11(b)(2) of this chapter and providing a permanent, continuous record of the stack gas moisture content, in percent H_2O;

(5) A CO_2 monitoring system, consisting of a CO_2 pollutant concentration monitor (or an O_2 monitor plus suitable mathematical equations from which the CO_2 concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of CO_2 emissions, in percent CO_2; and

(6) An O_2 monitoring system, consisting of an O_2 concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O_2, in percent O_2.

Control period means the period starting May 1 of a calendar year, except as provided in § 97.506(c)(3), and ending on September 30 of the same year, inclusive.

Designated representative means, for a TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to represent and legally bind each owner and operator in matters pertaining to the TR NO_X Ozone Season Trading Program. If the TR NO_X Ozone

Season source is also subject to the Acid Rain Program, TR NO_X Annual Trading Program, TR SO_2 Group 1 Trading Program, or TR SO_2 Group 2 Trading Program, then this natural person shall be the same natural person as the designated representative, as defined in the respective program.

Emissions means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the designated representative, and as modified by the Administrator:

(1) In accordance with this subpart; and

(2) With regard to a period before the unit or source is required to measure, record, and report such air pollutants in accordance with this subpart, in accordance with part 75 of this chapter.

Excess emissions means any ton of emissions from the TR NO_X Ozone Season units at a TR NO_X Ozone Season source during a control period in a given year that exceeds the TR NO_X Ozone Season emissions limitation for the source for such control period.

Fossil fuel means—

(1) Natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material; or

(2) For purposes of applying the limitation on ''average annual fuel consumption of fossil fuel'' in §§ 97.504(b)(2)(i)(B) and (ii), natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat.

Fossil-fuel-fired means, with regard to a unit, combusting any amount of fossil fuel in 2005 or any calendar year thereafter.

General account means an Allowance Management System account, established under this subpart, that is not a compliance account or an assurance account.

Generator means a device that produces electricity.

Gross electrical output means, for a unit, electricity made available for use, including any such electricity used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any onsite emission controls).

Heat input means, for a unit for a specified period of time, the product (in mmBtu/time) of the gross calorific value of the fuel (in mmBtu/lb) fed into the unit multiplied by the fuel feed rate (in lb of fuel/time), as measured, recorded, and reported to the Administrator by the designated representative and as modified by the Administrator in accordance with this subpart and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust.

Heat input rate means, for a unit, the amount of heat input (in mmBtu) divided by unit operating time (in hr) or, for a unit and a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Heat rate means, for a unit, the unit's maximum design heat input (in Btu/hr), divided by the product of 1,000,000 Btu/mmBtu and the unit's maximum hourly load.

Indian country means ''Indian country'' as defined in 18 U.S.C. 1151.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period no less than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input means, for a unit, the maximum amount of fuel per hour (in Btu/hr) that the unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.

Monitoring system means any monitoring system that meets the requirements of this subpart, including a continuous emission monitoring system, an alternative monitoring system, or an excepted monitoring system under part 75 of this chapter.

Nameplate capacity means, starting from the initial installation of a generator, the maximum electrical generating output (in MWe, rounded to the nearest tenth) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings), such increased maximum amount (in MWe, rounded to the nearest tenth) as of such completion as specified by the person conducting the physical change.

Natural gas means ''natural gas'' as defined in § 72.2 of this chapter.

Newly affected TR NO_X Ozone Season unit means a unit that was not a TR NO_X Ozone Season unit when it began operating but that thereafter becomes a TR NO_X Ozone Season unit.

Operate or *operation* means, with regard to a unit, to combust fuel.

Operator means, for a TR NO_X Ozone Season source or a TR NO_X Ozone Season unit at a source respectively, any person who operates, controls, or supervises a TR NO_X Ozone Season unit at the source or the TR NO_X Ozone Season unit and shall include, but not be limited to, any holding company, utility system, or plant manager of such source or unit.

Owner means, for a TR NO_X Ozone Season source or a TR NO_X Ozone Season unit at a source respectively, any of the following persons:

(1) Any holder of any portion of the legal or equitable title in a TR NO_X Ozone Season unit at the source or the TR NO_X Ozone Season unit;

(2) Any holder of a leasehold interest in a TR NO_X Ozone Season unit at the source or the TR NO_X Ozone Season unit, provided that, unless expressly provided for in a leasehold agreement, ''owner'' shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based (either directly or indirectly) on the revenues or income from such TR NO_X Ozone Season unit; and

(3) Any purchaser of power from a TR NO_X Ozone Season unit at the source or the TR NO_X Ozone Season unit under a life-of-the-unit, firm power contractual arrangement.

Permanently retired means, with regard to a unit, a unit that is unavailable for service and that the unit's owners and operators do not expect to return to service in the future.

Permitting authority means ''permitting authority'' as defined in §§ 70.2 and 71.2 of this chapter.

Potential electrical output capacity means, for a unit, 33 percent of the unit's maximum design heat input, divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

Receive or *receipt of* means, when referring to the Administrator, to come into possession of a document, information, or correspondence (whether sent in hard copy or by authorized electronic transmission), as indicated in an official log, or by a notation made on the document, information, or correspondence, by the Administrator in the regular course of business.

Recordation, record, or *recorded* means, with regard to TR NO_X Ozone Season allowances, the moving of TR NO_X Ozone Season allowances by the Administrator into, out of, or between Allowance Management System accounts, for purposes of allocation, auction, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in § 75.22 of this chapter.

Replacement, replace, or *replaced* means, with regard to a unit, the demolishing of a unit, or the permanent retirement and permanent disabling of a unit, and the construction of another unit (the replacement unit) to be used instead of the demolished or retired unit (the replaced unit).

Sequential use of energy means:

(1) The use of reject heat from electricity production in a useful thermal energy application or process; or

(2) The use of reject heat from useful thermal energy application or process in electricity production.

Serial number means, for a TR NO_X Ozone Season allowance, the unique identification number assigned to each TR NO_X Ozone Season allowance by the Administrator.

Solid waste incineration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a ''solid waste incineration unit'' as defined in section 129(g)(1) of the Clean Air Act.

Source means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons. This definition does not change or otherwise affect the definition of ''major source'', ''stationary source'', or ''source'' as set forth and implemented in a title V operating permit program or any other program under the Clean Air Act.

State means one of the States that is subject to the TR NO_X Ozone Season Trading Program pursuant to § 52.38(b) of this chapter.

Submit or *serve* means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery;

(4) Provided that compliance with any ''submission'' or ''service'' deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Topping-cycle unit means a unit in which the energy input to the unit is first used to produce useful power, including electricity, where at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

Total energy input means, for a unit, total energy of all forms supplied to the unit, excluding energy produced by the unit. Each form of energy supplied shall be measured by the lower heating value of that form of energy calculated as follows:

$$LHV = HHV - 10.55\ (W + 9H)$$

where:

LHV = lower heating value of the form of energy in Btu/lb,

HHV = higher heating value of the form of energy in Btu/lb,

W = weight % of moisture in the form of energy, and

H = weight % of hydrogen in the form of energy.

Total energy output means, for a unit, the sum of useful power and useful thermal energy produced by the unit.

TR NO_X Annual Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart AAAAA of this part and § 52.38(a) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(a)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(a)(5) of this chapter), as a means of mitigating interstate transport of fine particulates and NO_X.

TR NO_X Ozone Season allowance means a limited authorization issued and allocated or auctioned by the Administrator under this subpart, or by a State or permitting authority under a SIP revision approved by the Administrator under § 52.38(b)(3), (4), or (5) of this chapter, to emit one ton of NO_X during a control period of the specified calendar year for which the authorization is allocated or auctioned or of any calendar year thereafter under the TR NO_X Ozone Season Trading Program.

TR NO_X Ozone Season allowance deduction or deduct TR NO_X Ozone Season allowances means the permanent withdrawal of TR NO_X Ozone Season allowances by the Administrator from a compliance account (*e.g.*, in order to account for compliance with the TR NO_X Ozone Season emissions limitation) or from an assurance account (*e.g.*, in order to account for compliance with the assurance provisions under §§ 97.506 and 97.525).

TR NO_X Ozone Season allowances held or hold TR NO_X Ozone Season allowances

means the TR NO_X Ozone Season allowances treated as included in an Allowance Management System account as of a specified point in time because at that time they:

(1) Have been recorded by the Administrator in the account or transferred into the account by a correctly submitted, but not yet recorded, TR NO_X Ozone Season allowance transfer in accordance with this subpart; and

(2) Have not been transferred out of the account by a correctly submitted, but not yet recorded, TR NO_X Ozone Season allowance transfer in accordance with this subpart.

TR NO_X Ozone Season emissions limitation means, for a TR NO_X Ozone Season source, the tonnage of NO_X emissions authorized in a control period in a given year by the TR NO_X Ozone Season allowances available for deduction for the source under § 97.524(a) for such control period.

TR NO_X Ozone Season source means a source that includes one or more TR NO_X Ozone Season units.

TR NO_X Ozone Season Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with this subpart and § 52.38(b) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(5) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

TR NO_X Ozone Season unit means a unit that is subject to the TR NO_X Ozone Season Trading Program.

TR SO_2 Group 1 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with subpart CCCCC of this part and 52.39(a), (b), (d) through (f), (j), and (k) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(d) or (e) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(f) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

TR SO_2 Group 2 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with subpart DDDDD of this part and 52.39(a), (c), and (g) through (k) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(g) or (h) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(i) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

Unit means a stationary, fossil-fuel-fired boiler, stationary, fossil-fuel-fired combustion turbine, or other stationary, fossil-fuel-fired combustion device. A unit that undergoes a physical change or is moved to a different location or source shall continue to be treated as the same unit. A unit (the replaced unit) that is replaced by another unit (the replacement unit) at the same or a different source shall continue to be treated as the same unit, and the replacement unit shall be treated as a separate unit.

Unit operating day means, with regard to a unit, a calendar day in which the unit combusts any fuel.

Unit operating hour or *hour of unit operation* means, with regard to a unit, an hour in which the unit combusts any fuel.

Useful power means, with regard to a unit, electricity or mechanical energy that the unit makes available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Useful thermal energy means thermal energy that is:

(1) Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;

(2) Used in a heating application (*e.g.*, space heating or domestic hot water heating); or

(3) Used in a space cooling application (*i.e.*, in an absorption chiller).

Utility power distribution system means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.

§ 97.503 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this subpart are defined as follows:

Btu—British thermal unit
CO_2—carbon dioxide
H_2O—water
hr—hour
kW—kilowatt electrical
kWh—kilowatt hour
lb—pound
mmBtu—million Btu
MWe—megawatt electrical
MWh—megawatt hour
NO_X—nitrogen oxides
O_2—oxygen
ppm—parts per million
scfh—standard cubic feet per hour
SO_2—sulfur dioxide
yr—year

§ 97.504 Applicability.

(a) Except as provided in paragraph (b) of this section:

(1) The following units in a State (and Indian country within the borders of such State) shall be TR NO_X Ozone Season units, and any source that includes one or more such units shall be a TR NO_X Ozone Season source, subject to the requirements of this subpart: any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, on or after January 1, 2005, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

(2) If a stationary boiler or stationary combustion turbine that, under paragraph (a)(1) of this section, is not a TR NO_X Ozone Season unit begins to combust fossil fuel or to serve a generator with nameplate capacity of more than 25 MWe producing electricity for sale, the unit shall become a TR NO_X Ozone Season unit as provided in paragraph (a)(1) of this section on the first date on which it both combusts fossil fuel and serves such generator.

(b) Any unit in a State (and Indian country within the borders of such State) that otherwise is a TR NO_X Ozone Season unit under paragraph (a) of this section and that meets the requirements set forth in paragraph (b)(1)(i) or (2)(i) of this section shall not be a TR NO_X Ozone Season unit:

(1)(i) Any unit:

(A) Qualifying as a cogeneration unit throughout the later of 2005 or the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit throughout each calendar year ending after the later of 2005 or such 12-month period; and

(B) Not supplying in 2005 or any calendar year thereafter more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

(ii) If, after qualifying under paragraph (b)(1)(i) of this section as not being a TR NO_X Ozone Season unit, a unit subsequently no longer meets all the requirements of paragraph (b)(1)(i) of this section, the unit shall become a TR NO_X Ozone Season unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a cogeneration unit or January 1 after the first calendar year during which the unit no longer meets the requirements of paragraph (b)(1)(i)(B) of this section. The unit shall thereafter continue to be a TR NO_X Ozone Season unit.

(2)(i) Any unit:

(A) Qualifying as a solid waste incineration unit throughout the later of 2005 or the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a solid waste incineration unit throughout each calendar year ending after the later of 2005 or such 12-month period; and

(B) With an average annual fuel consumption of fossil fuel for the first 3 consecutive calendar years of operation starting no earlier than 2005 of less than 20 percent (on a Btu basis) and an average annual fuel consumption of fossil fuel for any 3 consecutive calendar years thereafter of less than 20 percent (on a Btu basis).

(ii) If, after qualifying under paragraph (b)(2)(i) of this section as not being a TR NO_X Ozone Season unit, a unit subsequently no longer meets all the requirements of paragraph (b)(1)(i) of this section, the unit shall become a TR NO_X Ozone Season unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a solid

waste incineration unit or January 1 after the first 3 consecutive calendar years after 2005 for which the unit has an average annual fuel consumption of fossil fuel of 20 percent or more. The unit shall thereafter continue to be a TR NOX Ozone Season unit.

(c) A certifying official of an owner or operator of any unit or other equipment may submit a petition (including any supporting documents) to the Administrator at any time for a determination concerning the applicability, under paragraphs (a) and (b) of this section or a SIP revision approved under § 52.38(b)(4) or (5) of this chapter, of the TR NO_X Ozone Season Trading Program to the unit or other equipment.

(1) Petition content. The petition shall be in writing and include the identification of the unit or other equipment and the relevant facts about the unit or other equipment. The petition and any other documents provided to the Administrator in connection with the petition shall include the following certification statement, signed by the certifying official: ''I am authorized to make this submission on behalf of the owners and operators of the unit or other equipment for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) Response. The Administrator will issue a written response to the petition and may request supplemental information determined by the Administrator to be relevant to such petition. The Administrator's determination concerning the applicability, under paragraphs (a) and (b) of this section, of the TR NO_X Ozone Season Trading Program to the unit or other equipment shall be binding on any State or permitting authority unless the Administrator determines that the petition or other documents or information provided in connection with the petition contained significant, relevant errors or omissions.

§ 97.505 Retired unit exemption.

(a)(1) Any TR NO_X Ozone Season unit that is permanently retired shall be exempt from § 97.506(b) and (c)(1), § 97.524, and §§ 97.530 through 97.535.

(2) The exemption under paragraph (a)(1) of this section shall become effective the day on which the TR NO_X Ozone Season unit is permanently retired. Within 30 days of the unit's permanent retirement, the designated representative shall submit a statement to the Administrator. The statement shall state, in a format prescribed by the Administrator, that the unit was permanently retired on a specified date and will comply with the requirements of paragraph (b) of this section.

(b) Special provisions. (1) A unit exempt under paragraph (a) of this section shall not emit any NO_X, starting on the date that the exemption takes effect.

(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under paragraph (a) of this section shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under paragraph (a) of this section shall comply with the requirements of the TR NO_X Ozone Season Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(4) A unit exempt under paragraph (a) of this section shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be

treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under this subpart, as a unit that commences commercial operation on the first date on which the unit resumes operation.

§ 97.506 Standard requirements.

(a) *Designated representative requirements*. The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with §§ 97.513 through 97.518.

(b) *Emissions monitoring, reporting, and recordkeeping requirements*. (1) The owners and operators, and the designated representative, of each TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of §§ 97.530 through 97.535.

(2) The emissions data determined in accordance with §§ 97.530 through 97.535 shall be used to calculate allocations of TR NO_X Ozone Season allowances under §§ 97.511(a)(2) and (b) and 97.512 and to determine compliance with the TR NO_X Ozone Season emissions limitation and assurance provisions under paragraph (c) of this section, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with §§ 97.530 through 97.535 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

(c) NO_X emissions requirements. (1) TR NO_X Ozone Season emissions limitation. (i) As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall hold, in the source's compliance account, TR NO_X Ozone Season allowances available for deduction for such control period under § 97.524(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Ozone Season units at the source.

(ii) If total NO_X emissions during a control period in a given year from the TR NO_X Ozone Season units at a TR NO_X Ozone Season source are in excess of the TR NO_X Ozone Season emissions limitation set forth in paragraph (c)(1)(i) of this section, then:

(A) The owners and operators of the source and each TR NO_X Ozone Season unit at the source shall hold the TR NO_X Ozone Season allowances required for deduction under § 97.524(d); and

(B) The owners and operators of the source and each TR NO_X Ozone Season unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart and the Clean Air Act.

(2) TR NO_X Ozone Season assurance provisions. (i) If total NO_X emissions during a control period in a given year from all TR NO_X Ozone Season units at TR NO_X Ozone Season sources in a State (and Indian country within the borders of such State) exceed the State assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_X emissions during such control period exceeds the common designated representative's assurance level for the State and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR NO_X Ozone Season allowances available for deduction for such control period under § 97.525(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with § 97.525(b), of multiplying—

(A) The quotient of the amount by which the common designated representative's share of such NO_X emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and

units in the State (and Indian country within the borders of such State) for such control period, by which each common designated representative's share of such NO_X emissions exceeds the respective common designated representative's assurance level; and

(B) The amount by which total NO_X emissions from all TR NO_X Ozone Season units at TR NO_X Ozone Season sources in the State (and Indian country within the borders of such State) for such control period exceed the State assurance level.

(ii) The owners and operators shall hold the TR NO_X Ozone Season allowances required under paragraph (c)(2)(i) of this section, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.

(iii) Total NO_X emissions from all TR NO_X Ozone Season units at TR NO_X Ozone Season sources in a State (and Indian country within the borders of such State) during a control period in a given year exceed the State assurance level if such total NO_X emissions exceed the sum, for such control period, of the State NO_X Ozone Season trading budget under § 97.510(a) and the State's variability limit under § 97.510(b).

(iv) It shall not be a violation of this subpart or of the Clean Air Act if total NO_X emissions from all TR NO_X Ozone Season units at TR NO_X Ozone Season sources in a State (and Indian country within the borders of such State) during a control period exceed the State assurance level or if a common designated representative's share of total NO_X emissions from the TR NO_X Ozone Season units at TR NO_X Ozone Season sources in a State (and Indian country within the borders of such State) during a control period exceeds the common designated representative's assurance level.

(v) To the extent the owners and operators fail to hold TR NO_X Ozone Season allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) of this section,

(A) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and

(B) Each TR NO_X Ozone Season allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) of this section and each day of such control period shall constitute a separate violation of this subpart and the Clean Air Act.

(3) *Compliance periods.* (i)A TR NO_X Ozone Season unit shall be subject to the requirements under paragraph (c)(1) of this section for the control period starting on the later of May 1, 2015 or the deadline for meeting the unit's monitor certification requirements under § 97.530(b) and for each control period thereafter.

(ii) A TR NO_X Ozone Season unit shall be subject to the requirements under paragraph (c)(2) of this section for the control period starting on the later of May 1, 2017 or the deadline for meeting the unit's monitor certification requirements under § 97.530(b) and for each control period thereafter.

(4) Vintage of allowances held for compliance. (i) A TR NO_X Ozone Season allowance held for compliance with the requirements under paragraph (c)(1)(i) of this section for a control period in a given year must be a TR NO_X Ozone Season allowance that was allocated for such control period or a control period in a prior year.

(ii) A TR NO_X Ozone Season allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) of this section for a control period in a given year must be a TR NO_X Ozone Season allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.

(5) Allowance Management System requirements. Each TR NO_X Ozone Season allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with this subpart.

(6) Limited authorization. A TR NO_X Ozone Season allowance is a limited authorization to emit one ton of NO_X during the control period in one year. Such authorization is limited in its use and duration as follows:

(i) Such authorization shall only be used in accordance with the TR NO_X Ozone Season Trading Program; and

(ii) Notwithstanding any other provision of this subpart, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.

(7) Property right. A TR NO_X Ozone Season allowance does not constitute a property right.

(d) *Title V permit requirements.* (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR NO_X Ozone Season allowances in accordance with this subpart.

(2) A description of whether a unit is required to monitor and report NO_X emissions using a continuous emission monitoring system (under subpart H of part 75 of this chapter), an excepted monitoring system (under appendices D and E to part 75 of this chapter), a low mass emissions excepted monitoring methodology (under § 75.19 of this chapter), or an alternative monitoring system (under subpart E of part 75 of this chapter) in accordance with §§ 97.530 through 97.535 may be added to, or changed in, a title V permit using minor permit modification procedures in accordance with §§ 70.7(e)(2) and 71.7(e)(1) of this chapter, provided that the requirements applicable to the described monitoring and reporting (as added or changed, respectively) are already incorporated in such permit. This paragraph explicitly provides that the addition of, or change to, a unit's description as described in the prior sentence is eligible for minor permit modification procedures in accordance with §§ 70.7(e)(2)(i)(B) and 71.7(e)(1)(i)(B) of this chapter.

(e) *Additional recordkeeping and reporting requirements.* (1) Unless otherwise provided, the owners and operators of each TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.

(i) The certificate of representation under § 97.516 for the designated representative for the source and each TR NO_X Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under § 97.516 changing the designated representative.

(ii) All emissions monitoring information, in accordance with this subpart.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR NO_X Ozone Season Trading Program.

(2) The designated representative of a TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall make all submissions required under the TR NO_X Ozone Season Trading Program, except as provided in § 97.518. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in parts 70 and 71 of this chapter.

(f) *Liability.* (1) Any provision of the TR NO_X Ozone Season Trading Program that applies to a TR NO_X Ozone Season source or the designated representative of a TR NO_X Ozone Season source shall also apply to the owners and operators of such source and of the TR NO_X Ozone Season units at the source.

(2) Any provision of the TR NO_X Ozone Season Trading Program that applies to a TR NO_X Ozone Season unit or the designated representative of a TR NO_X Ozone Season unit shall also apply to the owners and operators of such unit.

(g) *Effect on other authorities.* No provision of the TR NO_X Ozone Season Trading Program or exemption under § 97.505 shall be construed as exempting or excluding the owners and operators,

and the designated representative, of a TR NO_X Ozone Season source or TR NO_X Ozone Season unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

[76 FR 48406, Aug. 8, 2011, as amended at 77 FR 10336, Feb. 21, 2012; 79 FR 71672, Dec. 3, 2014]

§ 97.507 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the TR NO_X Ozone Season Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the TR NO_X Ozone Season Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the TR NO_X Ozone Season Trading Program, is not a business day, the time period shall be extended to the next business day.

§ 97.508 Administrative appeal procedures.

The administrative appeal procedures for decisions of the Administrator under the TR NO_X Ozone Season Trading Program are set forth in part 78 of this chapter.

§ 97.509 [Reserved]

§ 97.510 State NO_X Ozone Season trading budgets, new unit set-asides, Indian country new unit set-aside, and variability limits.

(a) The State NO_X ozone season trading budgets, new unit set-asides, and Indian country new unit-set asides for allocations of TR NO_X Ozone Season allowances for the control periods in 2015 and thereafter are as follows:

(1) *Alabama*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 31,746 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 635 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 31,499 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 630 tons.

(vi) [Reserved]

(2) *Arkansas*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 15,110 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 756 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 15,110 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 1,209 tons.

(3) *Florida*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 28,644 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 544 tons.

(iii) The NO_X ozone season Indian country new unit set-aside for 2015 and 2016 is 29 tons.

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 27,825 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 529 tons.

(vi) The NO_X ozone season Indian country new unit set-aside for 2017 and thereafter is 28 tons.

(4) *Georgia*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 27,944 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 559 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 24,041 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 481 tons.

(vi) [Reserved]

(5) *Illinois*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 21,208 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 1,697 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 21,208 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 1,697 tons.

(vi) [Reserved]

(6) *Indiana*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 46,876 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 1,406 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 46,175 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 1,385 tons.

(vi) [Reserved]

(7) *Iowa*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 16,532 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 314 tons.

(iii) The NO_X ozone season Indian country new unit set-aside for 2015 and 2016 is 17 tons.

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 16,207 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 308 tons.

(vi) The NO_X ozone season Indian country new unit set-aside for 2017 and thereafter is 16 tons.

(8) *Kentucky*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 36,167 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 1,447 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 32,674 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 1,307 tons.

(vi) [Reserved]

(9) *Louisiana*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 18,115 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 344 tons.

(iii) The NO_X ozone season Indian country new unit set-aside for 2015 and 2016 is 18 tons.

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 18,115 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 344 tons.

(vi) The NO_X ozone season Indian country new unit set-aside for 2017 and thereafter is 18 tons.

(10) *Maryland*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 7,179 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 144 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 7,179 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 144 tons.

(vi) [Reserved]

(11) *Michigan*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 28,041 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 533 tons.

(iii) The NO_X ozone season Indian country new unit set-aside for 2015 and 2016 is 28 tons.

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 27,016 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 513 tons.

(vi) The NO_X ozone season Indian country new unit set-aside for 2017 and thereafter is 27 tons.

(12) *Mississippi*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 12,429 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 237 tons.

(iii) The NO_X ozone season Indian country new unit set-aside for 2015 and 2016 is 12 tons.

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 12,429 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 237 tons.

(vi) The NO_X ozone season Indian country new unit set-aside for 2017 and thereafter is 12 tons.

(13) *Missouri*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 22,788 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 is 684 tons and for 2016 is 1,367 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 21,099 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 1,266 tons.

(14) *New Jersey*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 4,128 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 83 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 3,731 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 75 tons.

(vi) [Reserved]

(15) *New York*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 10,369 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 197 tons.

(iii) The NO_X ozone season Indian country new unit set-aside for 2015 and 2016 is 10 tons.

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 10,369 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 197 tons.

(vi) The NO_X ozone season Indian country new unit set-aside for 2017 and thereafter is 10 tons.

(16) *North Carolina*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 22,168 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 1,308 tons.

(iii) The NO_X ozone season Indian country new unit set-aside for 2015 and 2016 is 22 tons.

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 18,455 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 1,089 tons.

(vi) The NO_X ozone season Indian country new unit set-aside for 2017 and thereafter is 18 tons.

(17) *Ohio*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 41,284 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 826 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 39,013 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 780 tons.

(18) *Oklahoma*. (i) The NO_X ozone season trading budget for 2015 is 36,567 tons and for 2016 is 22,694 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 is 731 tons and for 2016 is 454 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 22,694 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 454 tons.

(19) *Pennsylvania*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 52,201 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 1,044 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 51,912 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 1,038 tons.

(vi) [Reserved]

(20) *South Carolina*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 13,909 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 264 tons.

(iii) The NO_X ozone season Indian country new unit set-aside for 2015 and 2016 is 14 tons.

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 13,909 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 264 tons.

(vi) The NO_X ozone season Indian country new unit set-aside for 2017 and thereafter is 14 tons.

(21) *Tennessee*. (i) The NO_X ozone season trading budget for 2015 and 2016 is 14,908 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 298 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 8,016 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 160 tons.

(vi) [Reserved]

(22) *Texas.* (i) The NO_X ozone season trading budget for 2015 and 2016 is 65,560 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 2,556 tons.

(iii) The NO_X ozone season Indian country new unit set-aside for 2015 and 2016 is 66 tons.

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 65,560 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 2,556 tons.

(vi) The NO_X ozone season Indian country new unit set-aside for 2017 and thereafter is 66 tons.

(23) *Virginia.* (i) The NO_X ozone season trading budget for 2015 and 2016 is 14,452 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 723 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 14,452 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 723 tons.

(vi) [Reserved]

(24) *West Virginia.* (i) The NO_X ozone season trading budget for 2015 and 2016 is 25,283 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 1,264 tons.

(iii) [Reserved]

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 23,291 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 1,165 tons.

(vi) [Reserved]

(25) *Wisconsin.* (i) The NO_X ozone season trading budget for 2015 and 2016 is 14,784 tons.

(ii) The NO_X ozone season new unit set-aside for 2015 and 2016 is 872 tons.

(iii) The NO_X ozone season Indian country new unit set-aside for 2015 and 2016 is 15 tons.

(iv) The NO_X ozone season trading budget for 2017 and thereafter is 14,296 tons.

(v) The NO_X ozone season new unit set-aside for 2017 and thereafter is 844 tons.

(vi) The NO_X ozone season Indian country new unit set-aside for 2017 and thereafter is 14 tons.

(b) The States' variability limits for the State NO_X ozone season trading budgets for the control periods in 2017 and thereafter are as follows:

(1) The NO_X ozone season variability limit for Alabama is 6,615 tons.

(2) The NO_X ozone season variability limit for Arkansas is 3,173 tons.

(3) The NO_X ozone season variability limit for Florida is 5,843 tons.

(4) The NO_X ozone season variability limit for Georgia is 5,049 tons.

(5) The NO_X ozone season variability limit for Illinois is 4,454 tons.

(6) The NO_X ozone season variability limit for Indiana is 9,697 tons.

(7) The NO_X ozone season variability limit for Iowa is 3,403 tons.

(8) The NO_X ozone season variability limit for Kentucky is 6,862 tons.

(9) The NO_X ozone season variability limit for Louisiana is 3,804 tons.

(10) The NO_X ozone season variability limit for Maryland is 1,508 tons.

(11) The NO_X ozone season variability limit for Michigan is 5,673 tons.

(12) The NO_X ozone season variability limit for Mississippi is 2,610 tons.

(13) The NO_X ozone season variability limit for Missouri is 4,431 tons.

(14) The NO_X ozone season variability limit for New Jersey is 784 tons.

(15) The NO_X ozone season variability limit for New York is 2,177 tons.

(16) The NO_X ozone season variability limit for North Carolina is 3,876 tons.

(17) The NO_X ozone season variability limit for Ohio is 8,193 tons.

(18) The NO_X ozone season variability limit for Oklahoma is 4,766 tons.

(19) The NO_X ozone season variability limit for Pennsylvania is 10,902 tons.

(20) The NO_X ozone season variability limit for South Carolina is 2,921 tons.

(21) The NO_X ozone season variability limit for Tennessee is 1,683 tons.

(22) The NO_X ozone season variability limit for Texas is 13,768 tons.

(23) The NO_X ozone season variability limit for Virginia is 3,035 tons.

(24) The NO_X ozone season variability limit for West Virginia is 4,891 tons.

(25) The NO_X ozone season variability limit for Wisconsin is 3,002 tons.

(c) Each NO_X ozone season trading budget in this section includes any tons in a new unit set aside or Indian country new unit set aside, but does not include any tons in a variability limit.

[77 FR 10336, Feb. 21, 2012, as amended at 77 FR 10348, Feb. 21, 2012; 77 FR 34845, June 12, 2012; 79 FR 71672, Dec. 3, 2014]

§ 97.511 Timing requirements for TR NO_X Ozone Season allowance allocations.

(a) *Existing units.* (1) TR NO_X Ozone Season allowances are allocated, for the control periods in 2015 and each year thereafter, as provided in a notice of data availability issued by the Administrator. Providing an allocation to a unit in such notice does not constitute a determination that the unit is a TR NO_X Ozone Season unit, and not providing an allocation to a unit in such notice does not constitute a determination that the unit is not a TR NO_X Ozone Season unit.

(2) Notwithstanding paragraph (a)(1) of this section, if a unit provided an allocation in the notice of data availability issued under paragraph (a)(1) of this section does not operate, starting after 2014, during the control period in two consecutive years, such unit will not be allocated the TR NO_X Ozone Season allowances provided in such notice for the unit for the control periods in the fifth year after the first such year and in each year after that fifth year. All TR NO_X Ozone Season allowances that would otherwise have been allocated to such unit will be allocated to the new unit set-aside for the State where such unit is located and for the respective years involved. If such unit resumes operation, the Administrator will allocate TR NO_X Ozone Season allowances to the unit in accordance with paragraph (b) of this section.

(b) *New units.* (1) New unit set-asides. (i) By June 1, 2015 and June 1 of each year thereafter, the Administrator will calculate the TR NO_X Ozone Season allowance allocation to each TR NO_X Ozone Season unit in a State, in accordance with § 97.512(a)(2) through (7) and (12), for the control period in the year of the applicable calculation deadline under this paragraph and will promulgate a notice of data availability of the results of the calculations.

(ii) For each notice of data availability required in paragraph (b)(1)(i) of this section, the Administrator will provide an opportunity for submission of objections to the calculations referenced in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(1)(i) of this section and shall be limited to addressing whether the calculations (including the identification of the TR NO_X Ozone Season units) are in accordance with § 97.512(a)(2) through (7) and (12) and §§ 97.506(b)(2) and 97.530 through 97.535.

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(1)(ii)(A) of this section. By August 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(1)(i) of this section, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary with regard to allocations under § 97.512(a)(2) through (7) and (12) and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(1)(ii)(A) of this section.

(iii) If the new unit set-aside for such control period contains any TR NO_X Ozone Season allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(1)(ii) of this section, the Administrator will promulgate, by September 15 immediately after such notice, a notice of data availability that identifies any TR NO_X Ozone Season units that commenced commercial operation during the period starting May 1 of the year before the year of such control period and ending August 31 of year of such control period.

(iv) For each notice of data availability required in paragraph (b)(1)(iii) of this section, the Administrator will provide an opportunity for submission of objections to the identification of TR NO_X Ozone Season units in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(1)(iii) of this section and shall be limited to addressing whether the identification of TR NO_X Ozone Season units in such notice is in accordance with paragraph (b)(1)(iii) of this section.

(B) The Administrator will adjust the identification of TR NO_X Ozone Season units in the each notice of data availability required in paragraph (b)(1)(iii) of this section to the extent necessary to ensure that it is in accordance with paragraph (b)(1)(iii) of this section and will calculate the TR NO_X Ozone Season allowance allocation to each TR NO_X Ozone Season unit in accordance with § 97.512(a)(9), (10), and (12) and §§ 97.506(b)(2) and 97.530 through 97.535. By November 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(1)(iii) of this section, the Administrator will promulgate a notice of data availability of any adjustments of the identification of TR NO_X Ozone Season units that the Administrator determines to be necessary, the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(1)(iv)(A) of this section, and the results of such calculations.

(v) To the extent any TR NO_X Ozone Season allowances are added to the new unit set-aside after promulgation of each notice of data availability required in paragraph (b)(1)(iv) of this section, the Administrator will promulgate additional notices of data availability, as deemed appropriate, of the allocation of such TR NO_X Ozone Season allowances in accordance with § 97.512(a)(10).

(2) Indian country new unit set-asides. (i) By June 1, 2015 and June 1 of each year thereafter, the Administrator will calculate the TR NO_X Ozone Season allowance allocation to each TR NO_X Ozone Season unit in Indian country within the borders of a State, in accordance with § 97.512(b)(2) through (7) and (12), for the control period in the year of the applicable calculation deadline under this paragraph and will promulgate a notice of data availability of the results of the calculations.

(ii) For each notice of data availability required in paragraph (b)(2)(i) of this section, the Administrator will provide an opportunity for submission of objections to the calculations referenced in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(2)(i) of this section and shall be limited to addressing whether the calculations (including the identification of the TR NO_X Ozone Season units) are in accordance with § 97.512(b)(2) through (7) and (12) and §§ 97.506(b)(2) and 97.530 through 97.535.

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(2)(ii)(A) of this section. By August 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(i) of this section, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary with regard to allocations under § 97.512(b)(2) through (7) and (12) and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(ii)(A) of this section.

(iii) If the Indian country new unit set-aside for such control period contains any TR NO_X Ozone Season allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(2)(ii) of this section, the Administrator will promulgate, by September 15 immediately after such notice, a notice of data availability that identifies any TR NO_X Ozone Season units that commenced commercial operation during the period starting May 1 of the year before the year of such control period and ending August 31 of year of such control period.

(iv) For each notice of data availability required in paragraph (b)(2)(iii) of this section, the Administrator will provide an opportunity for submission of objections to the identification of TR NO_X Ozone Season units in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of

data availability required in paragraph (b)(2)(iii) of this section and shall be limited to addressing whether the identification of TR NO_X Ozone Season units in such notice is in accordance with paragraph (b)(2)(iii) of this section.

(B) The Administrator will adjust the identification of TR NO_X Ozone Season units in the each notice of data availability required in paragraph (b)(2)(iii) of this section to the extent necessary to ensure that it is in accordance with paragraph (b)(2)(iii) of this section and will calculate the TR NO_X Ozone Season allowance allocation to each TR NO_X Ozone Season unit in accordance with §97.512(b)(9), (10), and (12) and §§97.506(b)(2) and 97.530 through 97.535. By November 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii) of this section, the Administrator will promulgate a notice of data availability of any adjustments of the identification of TR NO_X Ozone Season units that the Administrator determines to be necessary, the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(iv)(A) of this section, and the results of such calculations. (v) To the extent any TR NO_X Ozone Season allowances are added to the Indian country new unit set-aside after promulgation of each notice of data availability required in paragraph (b)(2)(iv) of this section, the Administrator will promulgate additional notices of data availability, as deemed appropriate, of the allocation of such TR NO_X Ozone Season allowances in accordance with §97.512(b)(10).

(c) *Units incorrectly allocated TR NO_X Ozone Season allowances.* (1) For each control period in 2015 and thereafter, if the Administrator determines that TR NO_X Ozone Season allowances were allocated under paragraph (a) of this section, or under a provision of a SIP revision approved under §52.38(b)(3), (4), or (5) of this chapter, where such control period and the recipient are covered by the provisions of paragraph (c)(1)(i) of this section or were allocated under §97.512(a)(2) through (7), (9), and (12) and (b)(2) through (7), (9), and (12), or under a provision of a SIP revision approved under §52.38(b)(4) or (5) of this chapter, where such control period and the recipient are covered by the provisions of paragraph (c)(1)(ii) of this section, then the Administrator will notify the designated representative of the recipient and will act in accordance with the procedures set forth in paragraphs (c)(2) through (5) of this section:

(i)(A) The recipient is not actually a TR NO_X Ozone Season unit under §97.504 as of May 1, 2015 and is allocated TR NO_X Ozone Season allowances for such control period or, in the case of an allocation under a provision of a SIP revision approved under §52.38(b)(3), (4), or (5) of this chapter, the recipient is not actually a TR NO_X Ozone Season unit as of May 1, 2015 and is allocated TR NO_X Ozone Season allowances for such control period that the SIP revision provides should be allocated only to recipients that are TR NO_X Ozone Season units as of May 1, 2015; or

(B) The recipient is not located as of May 1 of the control period in the State from whose NO_X Ozone Season trading budget the TR NO_X Ozone Season allowances allocated under paragraph (a) of this section, or under a provision of a SIP revision approved under §52.38(b)(3), (4), or (5) of this chapter, were allocated for such control period.

(ii) The recipient is not actually a TR NO_X Ozone Season unit under §97.504 as of May 1 of such control period and is allocated TR NO_X Ozone Season allowances for such control period or, in the case of an allocation under a provision of a SIP revision approved under §52.38(b)(3), (4), or (5) of this chapter, the recipient is not actually a TR NO_X Ozone Season unit as of January 1 of such control period and is allocated TR NO_X Ozone Season allowances for such control period that the SIP revision provides should be allocated only to recipients that are TR NO_X Ozone Season units as of May 1 of such control period.

(2) Except as provided in paragraph (c)(3) or (4) of this section, the Administrator will not record such TR NO_X Ozone Season allowances under §97.521.

(3) If the Administrator already recorded such TR NO_X Ozone Season allowances under § 97.521 and if the Administrator makes the determination under paragraph (c)(1) of this section before making deductions for the source that includes such recipient under § 97.524(b) for such control period, then the Administrator will deduct from the account in which such TR NO_X Ozone Season allowances were recorded an amount of TR NO_X Ozone Season allowances allocated for the same or a prior control period equal to the amount of such already recorded TR NO_X Ozone Season allowances. The authorized account representative shall ensure that there are sufficient TR NO_X Ozone Season allowances in such account for completion of the deduction.

(4) If the Administrator already recorded such TR NO_X Ozone Season allowances under § 97.521 and if the Administrator makes the determination under paragraph (c)(1) of this section after making deductions for the source that includes such recipient under § 97.524(b) for such control period, then the Administrator will not make any deduction to take account of such already recorded TR NO_X Ozone Season allowances.

(5)(i) With regard to the TR NO_X Ozone Season allowances that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(i) of this section, the Administrator will:

(A) Transfer such TR NO_X Ozone Season allowances to the new unit set-aside for such control period for the State from whose NO_X Ozone Season trading budget the TR NO_X Ozone Season allowances were allocated; or

(B) If the State has a SIP revision approved under § 52.38(b)(4) or (5) covering such control period, include such TR NO_X Annual allowances in the portion of the State NO_X Ozone Season trading budget that may be allocated for such control period in accordance with such SIP revision.

(ii) With regard to the TR NO_X Ozone Season allowances that were not allocated from the Indian country new unit set-aside for such control period and that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(ii) of this paragraph, the Administrator will:

(A) Transfer such TR NO_X Ozone Season allowances to the new unit set-aside for such control period; or

(B) If the State has a SIP revision approved under § 52.38(b)(4) or (5) covering such control period, include such TR NO_X Ozone Season allowances in the portion of the State NO_X Ozone Season trading budget that may be allocated for such control period in accordance with such SIP revision.

(iii) With regard to the TR NO_X Ozone Season allowances that were allocated from the Indian country new unit set-aside for such control period and that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(ii) of this paragraph, the Administrator will transfer such TR NO_X Ozone Season allowances to the Indian country new unit set-aside for such control period.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.512 TR NO_X Ozone Season allowance allocations to new units.

(a) For each control period in 2015 and thereafter and for the TR NO_X Ozone Season units in each State, the Administrator will allocate TR NO_X Ozone Season allowances to the TR NO_X Ozone Season units as follows:

(1) The TR NO_X Ozone Season allowances will be allocated to the following TR NO_X Ozone Season units, except as provided in paragraph (a)(10) of this section:

(i) TR NO_X Ozone Season units that are not allocated an amount of TR NO_X Ozone Season allowances in the notice of data availability issued under § 97.511(a)(1);

(ii) TR NO_X Ozone Season units whose allocation of an amount of TR NO_X Ozone Season allowances for such control period in the notice of data availability issued under § 97.511(a)(1) is covered by § 97.511(c)(2) or (3);

(iii) TR NO_X Ozone Season units that are allocated an amount of TR NO_X

Ozone Season allowances for such control period in the notice of data availability issued under § 97.511(a)(1), which allocation is terminated for such control period pursuant to § 97.511(a)(2), and that operate during the control period immediately preceding such control period; or

(iv) For purposes of paragraph (a)(9) of this section, TR NO_X Ozone Season units under § 97.511(c)(1)(ii) whose allocation of an amount of TR NO_X Ozone Season allowances for such control period in the notice of data availability issued under § 97.511(b)(1)(ii)(B) is covered by § 97.511(c)(2) or (3).

(2) The Administrator will establish a separate new unit set-aside for the State for each such control period. Each such new unit set-aside will be allocated TR NO_X Ozone Season allowances in an amount equal to the applicable amount of tons of NO_X emissions as set forth in § 97.510(a) and will be allocated additional TR NO_X Ozone Season allowances (if any) in accordance with §§ 97.511(a)(2) and (c)(5) and paragraph (b)(10) of this section.

(3) The Administrator will determine, for each TR NO_X Ozone Season unit described in paragraph (a)(1) of this section, an allocation of TR NO_X Ozone Season allowances for the later of the following control periods and for each subsequent control period:

(i) The control period in 2015;

(ii) The first control period after the control period in which the TR NO_X Ozone Season unit commences commercial operation;

(iii) For a unit described in paragraph (a)(1)(ii) of this section, the first control period in which the TR NO_X Ozone Season unit operates in the State after operating in another jurisdiction and for which the unit is not already allocated one or more TR NO_X Ozone Season allowances; and

(iv) For a unit described in paragraph (a)(1)(iii) of this section, the first control period after the control period in which the unit resumes operation.

(4)(i) The allocation to each TR NO_X Ozone Season unit described in paragraph (a)(1)(i) through (iii) of this section and for each control period described in paragraph (a)(3) of this section will be an amount equal to the unit's total tons of NO_X emissions during the immediately preceding control period.

(ii) The Administrator will adjust the allocation amount in paragraph (a)(4)(i) in accordance with paragraphs (a)(5) through (7) and (12) of this section.

(5) The Administrator will calculate the sum of the TR NO_X Ozone Season allowances determined for all such TR NO_X Ozone Season units under paragraph (a)(4)(i) of this section in the State for such control period.

(6) If the amount of TR NO_X Ozone Season allowances in the new unit set-aside for the State for such control period is greater than or equal to the sum under paragraph (a)(5) of this section, then the Administrator will allocate the amount of TR NO_X Ozone Season allowances determined for each such TR NO_X Ozone Season unit under paragraph (a)(4)(i) of this section.

(7) If the amount of TR NO_X Ozone Season allowances in the new unit set-aside for the State for such control period is less than the sum under paragraph (a)(5) of this section, then the Administrator will allocate to each such TR NO_X Ozone Season unit the amount of the TR NO_X Ozone Season allowances determined under paragraph (a)(4)(i) of this section for the unit, multiplied by the amount of TR NO_X Ozone Season allowances in the new unit set-aside for such control period, divided by the sum under paragraph (a)(5) of this section, and rounded to the nearest allowance.

(8) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.511(b)(1)(i) and (ii), of the amount of TR NO_X Ozone Season allowances allocated under paragraphs (a)(2) through (7) and (12) of this section for such control period to each TR NO_X Ozone Season unit eligible for such allocation.

(9) If, after completion of the procedures under paragraphs (a)(5) through (8) of this section for such control period, any unallocated TR NO_X Ozone Season allowances remain in the new unit set-aside for the State for such control period, the Administrator will allocate such TR NO_X Ozone Season allowances as follows—

(i) The Administrator will determine, for each unit described in paragraph (a)(1) of this section that commenced commercial operation during the period starting May 1 of the year before the year of such control period and ending August 31 of year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of TR NO_X Ozone Season allowances referenced in the notice of data availability required under § 97.511(b)(1)(ii) for the unit for such control period;

(ii) The Administrator will determine the sum of the positive differences determined under paragraph (a)(9)(i) of this section;

(iii) If the amount of unallocated TR NO_X Ozone Season allowances remaining in the new unit set-aside for the State for such control period is greater than or equal to the sum determined under paragraph (a)(9)(ii) of this section, then the Administrator will allocate the amount of TR NO_X Ozone Season allowances determined for each such TR NO_X Ozone Season unit under paragraph (a)(9)(i) of this section; and

(iv) If the amount of unallocated TR NO_X Ozone Season allowances remaining in the new unit set-aside for the State for such control period is less than the sum under paragraph (a)(9)(ii) of this section, then the Administrator will allocate to each such TR NO_X Ozone Season unit the amount of the TR NO_X Ozone Season allowances determined under paragraph (a)(9)(i) of this section for the unit, multiplied by the amount of unallocated TR NO_X Ozone Season allowances remaining in the new unit set-aside for such control period, divided by the sum under paragraph (a)(9)(ii) of this section, and rounded to the nearest allowance.

(10) If, after completion of the procedures under paragraphs (a)(9) and (12) of this section for such control period, any unallocated TR NO_X Ozone Season allowances remain in the new unit set-aside for the State for such control period, the Administrator will allocate to each TR NO_X Ozone Season unit that is in the State, is allocated an amount of TR NO_X Ozone Season allowances in the notice of data availability issued under § 97.511(a)(1), and continues to be allocated TR NO_X Ozone Season allowances for such control period in accordance with § 97.511(a)(2), an amount of TR NO_X Ozone Season allowances equal to the following: the total amount of such remaining unallocated TR NO_X Ozone Season allowances in such new unit set-aside, multiplied by the unit's allocation under § 97.511(a) for such control period, divided by the remainder of the amount of tons in the applicable State NO_X Ozone Season trading budget minus the sum of the amounts of tons in such new unit set-aside and the Indian country new unit set-aside for the State for such control period, and rounded to the nearest allowance.

(11) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.511(b)(1)(iii), (iv), and (v), of the amount of TR NO_X Ozone Season allowances allocated under paragraphs (a)(9), (10), and (12) of this section for such control period to each TR NO_X Ozone Season unit eligible for such allocation.

(12)(i) Notwithstanding the requirements of paragraphs (a)(2) through (11) of this section, if the calculations of allocations of a new unit set-aside for a control period in a given year under paragraph (a)(7) of this section, paragraphs (a)(6) and (9)(iv) of this section, or paragraphs (a)(6), (9)(iii), and (10) of this section would otherwise result in total allocations of such new unit set-aside exceeding the total amount of such new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (a)(7), (9)(iv), or (10) of this section, as applicable, as follows. The Administrator will list the TR NO_X Ozone Season units in descending order based on the amount of such units' allocations under paragraph (a)(7), (9)(iv), or (10) of this section, as applicable, and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will reduce each unit's allocation under paragraph (a)(7), (9)(iv), or (10) of this section, as applicable, by one TR NO_X Ozone Season allowance (but not below zero) in the order in which the units are listed and will repeat this reduction process as necessary, until the total allocations of

such new unit set-aside equal the total amount of such new unit set-aside.

(ii) Notwithstanding the requirements of paragraphs (a)(10) and (11) of this section, if the calculations of allocations of a new unit set-aside for a control period in a given year under paragraphs (a)(6), (9)(iii), and (10) of this section would otherwise result in a total allocations of such new unit set-aside less than the total amount of such new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (a)(10) of this section, as follows. The Administrator will list the TR NO_X Ozone Season units in descending order based on the amount of such units' allocations under paragraph (a)(10) of this section and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will increase each unit's allocation under paragraph (a)(10) of this section by one TR NO_X Ozone Season allowance in the order in which the units are listed and will repeat this increase process as necessary, until the total allocations of such new unit set-aside equal the total amount of such new unit set-aside.

(b) For each control period in 2015 and thereafter and for the TR NO_X Ozone Season units located in Indian country within the borders of each State, the Administrator will allocate TR NO_X Ozone Season allowances to the TR NO_X Ozone Season units as follows:

(1) The TR NO_X Ozone Season allowances will be allocated to the following TR NO_X Ozone Season units, except as provided in paragraph (b)(10) of this section:

(i) TR NO_X Ozone Season units that are not allocated an amount of TR NO_X Ozone Season allowances in the notice of data availability issued under § 97.511(a)(1); or

(ii) For purposes of paragraph (b)(9) of this section, TR NO_X Ozone Season units under § 97.511(c)(1)(ii) whose allocation of an amount of TR NO_X Ozone Season allowances for such control period in the notice of data availability issued under § 97.511(b)(2)(ii)(B) is covered by § 97.511(c)(2) or (3).

(2) The Administrator will establish a separate Indian country new unit set-aside for the State for each such control period. Each such Indian country new unit set-aside will be allocated TR NO_X Ozone Season allowances in an amount equal to the applicable amount of tons of NO_X emissions as set forth in § 97.510(a) and will be allocated additional TR NO_X Ozone Season allowances (if any) in accordance with § 97.511(c)(5).

(3) The Administrator will determine, for each TR NO_X Ozone Season unit described in paragraph (b)(1) of this section, an allocation of TR NO_X Ozone Season allowances for the later of the following control periods and for each subsequent control period:

(i) The control period in 2015; and

(ii) The first control period after the control period in which the TR NO_X Ozone Season unit commences commercial operation.

(4)(i) The allocation to each TR NO_X Ozone Season unit described in paragraph (b)(1)(i) of this section and for each control period described in paragraph (b)(3) of this section will be an amount equal to the unit's total tons of NO_X emissions during the immediately preceding control period.

(ii) The Administrator will adjust the allocation amount in paragraph (b)(4)(i) in accordance with paragraphs (b)(5) through (7) and (12) of this section.

(5) The Administrator will calculate the sum of the TR NO_X Ozone Season allowances determined for all such TR NO_X Ozone Season units under paragraph (b)(4)(i) of this section in Indian country within the borders of the State for such control period.

(6) If the amount of TR NO_X Ozone Season allowances in the Indian country new unit set-aside for the State for such control period is greater than or equal to the sum under paragraph (b)(5) of this section, then the Administrator will allocate the amount of TR NO_X Ozone Season allowances determined for each such TR NO_X Ozone Season unit under paragraph (b)(4)(i) of this section.

(7) If the amount of TR NO_X Ozone Season allowances in the Indian country new unit set-aside for the State for such control period is less than the

sum under paragraph (b)(5) of this section, then the Administrator will allocate to each such TR NO_X Ozone Season unit the amount of the TR NO_X Ozone Season allowances determined under paragraph (b)(4)(i) of this section for the unit, multiplied by the amount of TR NO_X Ozone Season allowances in the Indian country new unit set-aside for such control period, divided by the sum under paragraph (b)(5) of this section, and rounded to the nearest allowance.

(8) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.511(b)(2)(i) and (ii), of the amount of TR NO_X Ozone Season allowances allocated under paragraphs (b)(2) through (7) and (12) of this section for such control period to each TR NO_X Ozone Season unit eligible for such allocation.

(9) If, after completion of the procedures under paragraphs (b)(5) through (8) of this section for such control period, any unallocated TR NO_X Ozone Season allowances remain in the Indian country new unit set-aside for the State for such control period, the Administrator will allocate such TR NO_X Ozone Season allowances as follows—

(i) The Administrator will determine, for each unit described in paragraph (b)(1) of this section that commenced commercial operation during the period starting May 1 of the year before the year of such control period and ending August 31 of year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of TR NO_X Ozone Season allowances referenced in the notice of data availability required under § 97.511(b)(2)(ii) for the unit for such control period;

(ii) The Administrator will determine the sum of the positive differences determined under paragraph (b)(9)(i) of this section;

(iii) If the amount of unallocated TR NO_X Ozone Season allowances remaining in the Indian country new unit set-aside for the State for such control period is greater than or equal to the sum determined under paragraph (b)(9)(ii) of this section, then the Administrator will allocate the amount of TR NO_X Ozone Season allowances determined for each such TR NO_X Ozone Season unit under paragraph (b)(9)(i) of this section; and

(iv) If the amount of unallocated TR NO_X Ozone Season allowances remaining in the Indian country new unit set-aside for the State for such control period is less than the sum under paragraph (b)(9)(ii) of this section, then the Administrator will allocate to each such TR NO_X Ozone Season unit the amount of the TR NO_X Ozone Season allowances determined under paragraph (b)(9)(i) of this section for the unit, multiplied by the amount of unallocated TR NO_X Ozone Season allowances remaining in the Indian country new unit set-aside for such control period, divided by the sum under paragraph (b)(9)(ii) of this section, and rounded to the nearest allowance.

(10) If, after completion of the procedures under paragraphs (b)(9) and (12) of this section for such control period, any unallocated TR NO_X Ozone Season allowances remain in the Indian country new unit set-aside for the State for such control period, the Administrator will:

(i) Transfer such unallocated TR NO_X Ozone Season allowances to the new unit set-aside for the State for such control period; or

(ii) If the State has a SIP revision approved under § 52.38(b)(4) or (5) covering such control period, include such unallocated TR NO_X Ozone Season allowances in the portion of the State NO_X Ozone Season trading budget that may be allocated for such control period in accordance with such SIP revision.

(11) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.511(b)(2)(iii), (iv), and (v), of the amount of TR NO_X Ozone Season allowances allocated under paragraphs (b)(9), (10), and (12) of this section for such control period to each TR NO_X Ozone Season unit eligible for such allocation.

(12)(i) Notwithstanding the requirements of paragraphs (b)(2) through (11) of this section, if the calculations of allocations of an Indian country new unit set-aside for a control period in a given year under paragraph (b)(7) of this section, paragraphs (b)(6) and

(9)(iv) of this section, or paragraphs (b)(6), (9)(iii), and (10) of this section would otherwise result in total allocations of such Indian country new unit set-aside exceeding the total amount of such Indian country new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (b)(7), (9)(iv), or (10) of this section, as applicable, as follows. The Administrator will list the TR NO_X Ozone Season units in descending order based on the amount of such units' allocations under paragraph (b)(7), (9)(iv), or (10) of this section, as applicable, and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will reduce each unit's allocation under paragraph (b)(7), (9)(iv), or (10) of this section, as applicable, by one TR NO_X Ozone Season allowance (but not below zero) in the order in which the units are listed and will repeat this reduction process as necessary, until the total allocations of such Indian country new unit set-aside equal the total amount of such Indian country new unit set-aside.

(ii) Notwithstanding the requirements of paragraphs (b)(10) and (11) of this section, if the calculations of allocations of an Indian country new unit set-aside for a control period in a given year under paragraphs (b)(6), (9)(iii), and (10) of this section would otherwise result in a total allocations of such Indian country new unit set-aside less than the total amount of such Indian country new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (b)(10) of this section, as follows. The Administrator will list the TR NO_X Ozone Season units in descending order based on the amount of such units' allocations under paragraph (b)(10) of this section and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will increase each unit's allocation under paragraph (b)(10) of this section by one TR NO_X Ozone Season allowance in the order in which the units are listed and will repeat this increase process as necessary, until the total allocations of such Indian country new unit set-aside equal the total amount of such Indian country new unit set-aside.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§97.513 Authorization of designated representative and alternate designated representative.

(a) Except as provided under §97.515, each TR NO_X Ozone Season source, including all TR NO_X Ozone Season units at the source, shall have one and only one designated representative, with regard to all matters under the TR NO_X Ozone Season Trading Program.

(1) The designated representative shall be selected by an agreement binding on the owners and operators of the source and all TR NO_X Ozone Season units at the source and shall act in accordance with the certification statement in §97.516(a)(4)(iii).

(2) Upon and after receipt by the Administrator of a complete certificate of representation under §97.516:

(i) The designated representative shall be authorized and shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the source and each TR NO_X Ozone Season unit at the source in all matters pertaining to the TR NO_X Ozone Season Trading Program, notwithstanding any agreement between the designated representative and such owners and operators; and

(ii) The owners and operators of the source and each TR NO_X Ozone Season unit at the source shall be bound by any decision or order issued to the designated representative by the Administrator regarding the source or any such unit.

(b) Except as provided under §97.515, each TR NO_X Ozone Season source may have one and only one alternate designated representative, who may act on behalf of the designated representative. The agreement by which the alternate designated representative is selected shall include a procedure for authorizing the alternate designated representative to act in lieu of the designated representative.

(1) The alternate designated representative shall be selected by an agreement binding on the owners and

operators of the source and all TR NO_X Ozone Season units at the source and shall act in accordance with the certification statement in § 97.516(a)(4)(iii).

(2) Upon and after receipt by the Administrator of a complete certificate of representation under § 97.516,

(i) The alternate designated representative shall be authorized;

(ii) Any representation, action, inaction, or submission by the alternate designated representative shall be deemed to be a representation, action, inaction, or submission by the designated representative; and

(iii) The owners and operators of the source and each TR NO_X Ozone Season unit at the source shall be bound by any decision or order issued to the alternate designated representative by the Administrator regarding the source or any such unit.

(c) Except in this section, § 97.502, and §§ 97.514 through 97.518, whenever the term ''designated representative'' (as distinguished from the term ''common designated representative'') is used in this subpart, the term shall be construed to include the designated representative or any alternate designated representative.

§ 97.514 Responsibilities of designated representative and alternate designated representative.

(a) Except as provided under § 97.518 concerning delegation of authority to make submissions, each submission under the TR NO_X Ozone Season Trading Program shall be made, signed, and certified by the designated representative or alternate designated representative for each TR NO_X Ozone Season source and TR NO_X Ozone Season unit for which the submission is made. Each such submission shall include the following certification statement by the designated representative or alternate designated representative: ''I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(b) The Administrator will accept or act on a submission made for a TR NO_X Ozone Season source or a TR NO_X Ozone Season unit only if the submission has been made, signed, and certified in accordance with paragraph (a) of this section and § 97.518.

§ 97.515 Changing designated representative and alternate designated representative; changes in owners and operators; changes in units at the source.

(a) *Changing designated representative.* The designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.516. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new designated representative and the owners and operators of the TR NO_X Ozone Season source and the TR NO_X Ozone Season units at the source.

(b) *Changing alternate designated representative.* The alternate designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.516. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new alternate designated representative, the designated representative, and the owners and operators of the TR NO_X Ozone Season source and the TR NO_X Ozone Season units at the source.

(c) *Changes in owners and operators.* (1) In the event an owner or operator of

a TR NO_X Ozone Season source or a TR NO_X Ozone Season unit at the source is not included in the list of owners and operators in the certificate of representation under § 97.516, such owner or operator shall be deemed to be subject to and bound by the certificate of representation, the representations, actions, inactions, and submissions of the designated representative and any alternate designated representative of the source or unit, and the decisions and orders of the Administrator, as if the owner or operator were included in such list.

(2) Within 30 days after any change in the owners and operators of a TR NO_X Ozone Season source or a TR NO_X Ozone Season unit at the source, including the addition or removal of an owner or operator, the designated representative or any alternate designated representative shall submit a revision to the certificate of representation under § 97.516 amending the list of owners and operators to reflect the change.

(d) *Changes in units at the source.* Within 30 days of any change in which units are located at a TR NO_X Ozone Season source (including the addition or removal of a unit), the designated representative or any alternate designated representative shall submit a certificate of representation under § 97.516 amending the list of units to reflect the change.

(1) If the change is the addition of a unit that operated (other than for purposes of testing by the manufacturer before initial installation) before being located at the source, then the certificate of representation shall identify, in a format prescribed by the Administrator, the entity from whom the unit was purchased or otherwise obtained (including name, address, telephone number, and facsimile number (if any)), the date on which the unit was purchased or otherwise obtained, and the date on which the unit became located at the source.

(2) If the change is the removal of a unit, then the certificate of representation shall identify, in a format prescribed by the Administrator, the entity to which the unit was sold or that otherwise obtained the unit (including name, address, telephone number, and facsimile number (if any)), the date on which the unit was sold or otherwise obtained, and the date on which the unit became no longer located at the source.

§ 97.516 Certificate of representation.

(a) A complete certificate of representation for a designated representative or an alternate designated representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the TR NO_X Ozone Season source, and each TR NO_X Ozone Season unit at the source, for which the certificate of representation is submitted, including source name, source category and NAICS code (or, in the absence of a NAICS code, an equivalent code), State, plant code, county, latitude and longitude, unit identification number and type, identification number and nameplate capacity (in MWe, rounded to the nearest tenth) of each generator served by each such unit, actual or projected date of commencement of commercial operation, and a statement of whether such source is located in Indian Country. If a projected date of commencement of commercial operation is provided, the actual date of commencement of commercial operation shall be provided when such information becomes available.

(2) The name, address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the designated representative and any alternate designated representative.

(3) A list of the owners and operators of the TR NO_X Ozone Season source and of each TR NO_X Ozone Season unit at the source.

(4) The following certification statements by the designated representative and any alternate designated representative—

(i) ''I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the source and each TR NO_X Ozone Season unit at the source.''

(ii) ''I certify that I have all the necessary authority to carry out my duties and responsibilities under the TR NO_X Ozone Season Trading Program on

behalf of the owners and operators of the source and of each TR NO_X Ozone Season unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the Administrator regarding the source or unit.''

(iii) ''Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, a TR NO_X Ozone Season unit, or where a utility or industrial customer purchases power from a TR NO_X Ozone Season unit under a life-of-the-unit, firm power contractual arrangement, I certify that: I have given a written notice of my selection as the 'designated representative' or 'alternate designated representative', as applicable, and of the agreement by which I was selected to each owner and operator of the source and of each TR NO_X Ozone Season unit at the source; and TR NO_X Ozone Season allowances and proceeds of transactions involving TR NO_X Ozone Season allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, except that, if such multiple holders have expressly provided for a different distribution of TR NO_X Ozone Season allowances by contract, TR NO_X Ozone Season allowances and proceeds of transactions involving TR NO_X Ozone Season allowances will be deemed to be held or distributed in accordance with the contract.''

(5) The signature of the designated representative and any alternate designated representative and the dates signed.

(b) Unless otherwise required by the Administrator, documents of agreement referred to in the certificate of representation shall not be submitted to the Administrator. The Administrator shall not be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

§ 97.517 Objections concerning designated representative and alternate designated representative.

(a) Once a complete certificate of representation under § 97.516 has been submitted and received, the Administrator will rely on the certificate of representation unless and until a superseding complete certificate of representation under § 97.516 is received by the Administrator.

(b) Except as provided in paragraph (a) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission, of a designated representative or alternate designated representative shall affect any representation, action, inaction, or submission of the designated representative or alternate designated representative or the finality of any decision or order by the Administrator under the TR NO_X Ozone Season Trading Program.

(c) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any designated representative or alternate designated representative, including private legal disputes concerning the proceeds of TR NO_X Ozone Season allowance transfers.

§ 97.518 Delegation by designated representative and alternate designated representative.

(a) A designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(b) An alternate designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(c) In order to delegate authority to a natural person to make an electronic submission to the Administrator in accordance with paragraph (a) or (b) of this section, the designated representative or alternate designated representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(1) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such designated representative or alternate designated representative;

(2) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to in this section as an ''agent'');

(3) For each such natural person, a list of the type or types of electronic submissions under paragraph (a) or (b) of this section for which authority is delegated to him or her; and

(4) The following certification statements by such designated representative or alternate designated representative:

(i) ''I agree that any electronic submission to the Administrator that is made by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a designated representative or alternate designated representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.518(d) shall be deemed to be an electronic submission by me.''

(ii) ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.518(d), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.518 is terminated.''.

(d) A notice of delegation submitted under paragraph (c) of this section shall be effective, with regard to the designated representative or alternate designated representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such designated representative or alternate designated representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(e) Any electronic submission covered by the certification in paragraph (c)(4)(i) of this section and made in accordance with a notice of delegation effective under paragraph (d) of this section shall be deemed to be an electronic submission by the designated representative or alternate designated representative submitting such notice of delegation.

§ 97.519 [Reserved]

§ 97.520 Establishment of compliance accounts, assurance accounts, and general accounts.

(a) *Compliance accounts.* Upon receipt of a complete certificate of representation under § 97.516, the Administrator will establish a compliance account for the TR NO_X Ozone Season source for which the certificate of representation was submitted, unless the source already has a compliance account. The designated representative and any alternate designated representative of the source shall be the authorized account representative and the alternate authorized account representative respectively of the compliance account.

(b) *Assurance accounts.* The Administrator will establish assurance accounts for certain owners and operators and States in accordance with § 97.525(b)(3).

(c) *General accounts.* (1) Application for general account. (i) Any person may apply to open a general account, for the purpose of holding and transferring TR NO_X Ozone Season allowances, by submitting to the Administrator a complete application for a general account. Such application shall designate one and only one authorized account representative and may designate one and only one alternate authorized account representative who may act on behalf of the authorized account representative.

(A) The authorized account representative and alternate authorized account representative shall be selected by an agreement binding on the persons who have an ownership interest with respect to TR NO_X Ozone Season allowances held in the general account.

(B) The agreement by which the alternate authorized account representative is selected shall include a procedure for authorizing the alternate authorized account representative to act

in lieu of the authorized account representative.

(ii) A complete application for a general account shall include the following elements in a format prescribed by the Administrator:

(A) Name, mailing address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the authorized account representative and any alternate authorized account representative;

(B) An identifying name for the general account;

(C) A list of all persons subject to a binding agreement for the authorized account representative and any alternate authorized account representative to represent their ownership interest with respect to the TR NO_X Ozone Season allowances held in the general account;

(D) The following certification statement by the authorized account representative and any alternate authorized account representative: ''I certify that I was selected as the authorized account representative or the alternate authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to TR NO_X Ozone Season allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the TR NO_X Ozone Season Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the Administrator regarding the general account.''

(E) The signature of the authorized account representative and any alternate authorized account representative and the dates signed.

(iii) Unless otherwise required by the Administrator, documents of agreement referred to in the application for a general account shall not be submitted to the Administrator. The Administrator shall not be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) Authorization of authorized account representative and alternate authorized account representative. (i) Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section, the Administrator will establish a general account for the person or persons for whom the application is submitted, and upon and after such receipt by the Administrator:

(A) The authorized account representative of the general account shall be authorized and shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to TR NO_X Ozone Season allowances held in the general account in all matters pertaining to the TR NO_X Ozone Season Trading Program, notwithstanding any agreement between the authorized account representative and such person.

(B) Any alternate authorized account representative shall be authorized, and any representation, action, inaction, or submission by any alternate authorized account representative shall be deemed to be a representation, action, inaction, or submission by the authorized account representative.

(C) Each person who has an ownership interest with respect to TR NO_X Ozone Season allowances held in the general account shall be bound by any decision or order issued to the authorized account representative or alternate authorized account representative by the Administrator regarding the general account.

(ii) Except as provided in paragraph (c)(5) of this section concerning delegation of authority to make submissions, each submission concerning the general account shall be made, signed, and certified by the authorized account representative or any alternate authorized account representative for the persons having an ownership interest with respect to TR NO_X Ozone Season allowances held in the general account. Each such submission shall include the following certification statement by the authorized account representative or any alternate authorized account representative: ''I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the TR NO_X Ozone Season allowances held in the general account. I certify under penalty of law that I have

personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(iii) Except in this section, whenever the term ''authorized account representative'' is used in this subpart, the term shall be construed to include the authorized account representative or any alternate authorized account representative.

(3) Changing authorized account representative and alternate authorized account representative; changes in persons with ownership interest. (i) The authorized account representative of a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (c)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new authorized account representative and the persons with an ownership interest with respect to the TR NO_X Ozone Season allowances in the general account.

(ii) The alternate authorized account representative of a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (c)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate authorized account representative, the authorized account representative, and the persons with an ownership interest with respect to the TR NO_X Ozone Season allowances in the general account.

(iii)(A) In the event a person having an ownership interest with respect to TR NO_X Ozone Season allowances in the general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representation, actions, inactions, and submissions of the authorized account representative and any alternate authorized account representative of the account, and the decisions and orders of the Administrator, as if the person were included in such list.

(B) Within 30 days after any change in the persons having an ownership interest with respect to NO_X Ozone Season allowances in the general account, including the addition or removal of a person, the authorized account representative or any alternate authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the TR NO_X Ozone Season allowances in the general account to include the change.

(4) Objections concerning authorized account representative and alternate authorized account representative. (i) Once a complete application for a general account under paragraph (c)(1) of this section has been submitted and received, the Administrator will rely on the application unless and until a superseding complete application for a general account under paragraph (b)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (c)(4)(i) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative of a general account shall affect any representation, action, inaction, or submission of the authorized account

representative or any alternate authorized account representative or the finality of any decision or order by the Administrator under the TR NO_X Ozone Season Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative of a general account, including private legal disputes concerning the proceeds of TR NO_X Ozone Season allowance transfers.

(5) Delegation by authorized account representative and alternate authorized account representative. (i) An authorized account representative of a general account may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(ii) An alternate authorized account representative of a general account may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(iii) In order to delegate authority to a natural person to make an electronic submission to the Administrator in accordance with paragraph (c)(5)(i) or (ii) of this section, the authorized account representative or alternate authorized account representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(A) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such authorized account representative or alternate authorized account representative;

(B) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to in this section as an ''agent'');

(C) For each such natural person, a list of the type or types of electronic submissions under paragraph (c)(5)(i) or (ii) of this section for which authority is delegated to him or her;

(D) The following certification statement by such authorized account representative or alternate authorized account representative: ''I agree that any electronic submission to the Administrator that is made by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am an authorized account representative or alternate authorized representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.520(c)(5)(iv) shall be deemed to be an electronic submission by me.''; and

(E) The following certification statement by such authorized account representative or alternate authorized account representative: ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.520(c)(5)(iv), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.520(c)(5) is terminated.''.

(iv) A notice of delegation submitted under paragraph (c)(5)(iii) of this section shall be effective, with regard to the authorized account representative or alternate authorized account representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such authorized account representative or alternate authorized account representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(v) Any electronic submission covered by the certification in paragraph (c)(5)(iii)(D) of this section and made in accordance with a notice of delegation effective under paragraph (c)(5)(iv) of this section shall be deemed to be an electronic submission by the designated representative or alternate designated representative submitting such notice of delegation.

(6) Closing a general account. (i) The authorized account representative or

alternate authorized account representative of a general account may submit to the Administrator a request to close the account. Such request shall include a correctly submitted TR NO_X Ozone Season allowance transfer under § 97.522 for any TR NO_X Ozone Season allowances in the account to one or more other Allowance Management System accounts.

(ii) If a general account has no TR NO_X Ozone Season allowance transfers to or from the account for a 12-month period or longer and does not contain any TR NO_X Ozone Season allowances, the Administrator may notify the authorized account representative for the account that the account will be closed after 30 days after the notice is sent. The account will be closed after the 30-day period unless, before the end of the 30-day period, the Administrator receives a correctly submitted TR NO_X Ozone Season allowance transfer under § 97.522 to the account or a statement submitted by the authorized account representative or alternate authorized account representative demonstrating to the satisfaction of the Administrator good cause as to why the account should not be closed.

(d) *Account identification.* The Administrator will assign a unique identifying number to each account established under paragraph (a), (b), or (c) of this section.

(e) *Responsibilities of authorized account representative and alternate authorized account representative.* After the establishment of a compliance account or general account, the Administrator will accept or act on a submission pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of TR NO_X Ozone Season allowances in the account, only if the submission has been made, signed, and certified in accordance with §§ 97.514(a) and 97.518 or paragraphs (c)(2)(ii) and (c)(5) of this section.

§ 97.521 Recordation of TR NO_X Ozone Season allowance allocations and auction results.

(a) By November 7, 2011 or, with regard to units in Iowa, Michigan, Missouri, Oklahoma, and Wisconsin, March 26, 2015, the Administrator will record in each TR NO_X Ozone Season source's compliance account the TR NO_X Ozone Season allowances allocated to the TR NO_X Ozone Season units at the source in accordance with § 97.511(a) for the control period in 2015.

(b) By November 7, 2011 or, with regard to units in Iowa, Michigan, Missouri, Oklahoma, and Wisconsin, March 26, 2015, the Administrator will record in each TR NO_X Ozone Season source's compliance account the TR NO_X Ozone Season allowances allocated to the TR NO_X Ozone Season units at the source in accordance with § 97.511(a) for the control period in 2016, unless the State in which the source is located notifies the Administrator in writing by October 17, 2011 or, with regard to TR NO_X Ozone Season units in Iowa, Michigan, Missouri, Oklahoma, and Wisconsin, March 6, 2015 of the State's intent to submit to the Administrator a complete SIP revision by April 1, 2015 or, with regard to units in Iowa, Michigan, Missouri, Oklahoma, and Wisconsin, October 1, 2015 meeting the requirements of § 52.38(b)(3)(i) through (iv) of this chapter.

(1) If, by April 1, 2015 or, with regard to TR NO_X Ozone Season units in Iowa, Michigan, Missouri, Oklahoma, and Wisconsin, by October 1, 2015, the State does not submit to the Administrator such complete SIP revision, the Administrator will record by April 15, 2015 or, with regard to units in Iowa, Michigan, Missouri, Oklahoma, and Wisconsin, October 15, 2015 in each TR NO_X Ozone Season source's compliance account the TR NO_X Ozone Season allowances allocated to the TR NO_X Ozone Season units at the source in accordance with § 97.511(a) for the control period in 2016.

(2) If the State submits to the Administrator by April 1, 2015 or, with regard to units in Iowa, Michigan, Missouri, Oklahoma, and Wisconsin, October 1, 2015, and the Administrator approves by October 1, 2015 or, with regard to units in Iowa, Michigan, Missouri, Oklahoma, and Wisconsin, April 1, 2016, such complete SIP revision, the Administrator will record by October 1, 2015 or, with regard to units in Iowa, Michigan, Missouri, Oklahoma, and Wisconsin, April 1, 2016 in each TR NO_X

Ozone Season source's compliance account the TR NO_X Ozone Season allowances allocated to the TR NO_X Ozone Season units at the source as provided in such approved, complete SIP revision for the control period in 2016.

(3) If the State submits to the Administrator by April 1, 2015 or, with regard to units in Iowa, Michigan, Missouri, Oklahoma, and Wisconsin, October 1, 2015, and the Administrator does not approve by October 1, 2015 or, with regard to units in Iowa, Michigan, Missouri, Oklahoma, and Wisconsin, April 1, 2016, such complete SIP revision, the Administrator will record by October 1, 2015 or, with regard to units in Iowa, Michigan, Missouri, Oklahoma, and Wisconsin, April 1, 2016 in each TR NO_X Ozone Season source's compliance account the TR NO_X Ozone Season allowances allocated to the TR NO_X Ozone Season units at the source in accordance with § 97.511(a) for the control period in 2016.

(c) By July 1, 2016, the Administrator will record in each TR NO_X Ozone Season source's compliance account the TR NO_X Ozone Season allowances allocated to the TR NO_X Ozone Season units at the source, or in each appropriate Allowance Management System account the TR NO_X Ozone Season allowances auctioned to TR NO_X Ozone Season units, in accordance with § 97.511(a), or with a SIP revision approved under § 52.38(b)(4) or (5) of this chapter, for the control period in 2017 and 2018.

(d) By July 1, 2017, the Administrator will record in each TR NO_X Ozone Season source's compliance account the TR NO_X Ozone Season allowances allocated to the TR NO_X Ozone Season units at the source, or in each appropriate Allowance Management System account the TR NO_X Ozone Season allowances auctioned to TR NO_X Ozone Season units, in accordance with § 97.511(a), or with a SIP revision approved under § 52.38(b)(4) or (5) of this chapter, for the control period in 2019 and 2020.

(e) By July 1, 2018, the Administrator will record in each TR NO_X Ozone Season source's compliance account the TR NO_X Ozone Season allowances allocated to the TR NO_X Ozone Season units at the source, or in each appropriate Allowance Management System account the TR NO_X Ozone Season allowances auctioned to TR NO_X Ozone Season units, in accordance with § 97.511(a), or with a SIP revision approved under § 52.38(b)(4) or (5) of this chapter, for the control period in 2021 and 2022.

(f) By July 1, 2019 and July 1 of each year thereafter, the Administrator will record in each TR NO_X Ozone Season source's compliance account the TR NO_X Ozone Season allowances allocated to the TR NO_X Ozone Season units at the source, or in each appropriate Allowance Management System account the TR NO_X Ozone Season allowances auctioned to TR NO_X Ozone Season units, in accordance with § 97.511(a), or with a SIP revision approved under § 52.38(b)(4) or (5) of this chapter, for the control period in the fourth year after the year of the applicable recordation deadline under this paragraph.

(g) By August 1, 2015 and August 1 of each year thereafter, the Administrator will record in each TR NO_X Ozone Season source's compliance account the TR NO_X Ozone Season allowances allocated to the TR NO_X Ozone Season units at the source, or in each appropriate Allowance Management System account the TR NO_X Ozone Season allowances auctioned to TR NO_X Ozone Season units, in accordance with § 97.512(a)(2) through (8) and (12), or with a SIP revision approved under § 52.38(b)(4) or (5) of this chapter, for the control period in the year of the applicable recordation deadline under this paragraph.

(h) By August 1, 2015 and August 1 of each year thereafter, the Administrator will record in each TR NO_X Ozone Season source's compliance account the TR NO_X Ozone Season allowances allocated to the TR NO_X Ozone Season units at the source in accordance with § 97.512(b)(2) through (8) and (12) for the control period in the year of the applicable recordation deadline under this paragraph.

(i) By November 15, 2015 and November 15 of each year thereafter, the Administrator will record in each TR NO_X Ozone Season source's compliance account the TR NO_X Ozone Season allowances allocated to the TR NO_X Ozone

Season units at the source in accordance with § 97.512(a)(9) through (12), for the control period in the year of the applicable recordation deadline under this paragraph.

(j) By the date on which any allocation or auction results, other than an allocation or auction results described in paragraphs (a) through (i) of this section, of TR NO_X Ozone Season allowances to a recipient is made by or are submitted to the Administrator in accordance with § 97.511 or § 97.512 or with a SIP revision approved under § 52.38(b)(4) or (5) of this chapter, the Administrator will record such allocation or auction results in the appropriate Allowance Management System account.

(k) When recording the allocation or auction of TR NO_X Ozone Season allowances to a TR NO_X Ozone Season unit or other entity in an Allowance Management System account, the Administrator will assign each TR NO_X Ozone Season allowance a unique identification number that will include digits identifying the year of the control period for which the TR NO_X Ozone Season allowance is allocated or auctioned.

[76 FR 48406, Aug. 8, 2011, as amended at 76 FR 80777, Dec. 27, 2011; 79 FR 71672, Dec. 3, 2014]

§ 97.522 Submission of TR NO_X Ozone Season allowance transfers.

(a) An authorized account representative seeking recordation of a TR NO_X Ozone Season allowance transfer shall submit the transfer to the Administrator.

(b) A TR NO_X Ozone Season allowance transfer shall be correctly submitted if:

(1) The transfer includes the following elements, in a format prescribed by the Administrator:

(i) The account numbers established by the Administrator for both the transferor and transferee accounts;

(ii) The serial number of each TR NO_X Ozone Season allowance that is in the transferor account and is to be transferred; and

(iii) The name and signature of the authorized account representative of the transferor account and the date signed; and

(2) When the Administrator attempts to record the transfer, the transferor account includes each TR NO_X Ozone Season allowance identified by serial number in the transfer.

§ 97.523 Recordation of TR NO_X Ozone Season allowance transfers.

(a) Within 5 business days (except as provided in paragraph (b) of this section) of receiving a TR NO_X Ozone Season allowance transfer that is correctly submitted under § 97.522, the Administrator will record a TR NO_X Ozone Season allowance transfer by moving each TR NO_X Ozone Season allowance from the transferor account to the transferee account as specified in the transfer.

(b) A TR NO_X Ozone Season allowance transfer to or from a compliance account that is submitted for recordation after the allowance transfer deadline for a control period and that includes any TR NO_X Ozone Season allowances allocated for any control period before such allowance transfer deadline will not be recorded until after the Administrator completes the deductions from such compliance account under § 97.524 for the control period immediately before such allowance transfer deadline.

(c) Where a TR NO_X Ozone Season allowance transfer is not correctly submitted under § 97.522, the Administrator will not record such transfer.

(d) Within 5 business days of recordation of a TR NO_X Ozone Season allowance transfer under paragraphs (a) and (b) of the section, the Administrator will notify the authorized account representatives of both the transferor and transferee accounts.

(e) Within 10 business days of receipt of a TR NO_X Ozone Season allowance transfer that is not correctly submitted under § 97.522, the Administrator will notify the authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer, and

(2) The reasons for such non-recordation.

§ 97.524 Compliance with TR NO_X Ozone Season emissions limitation.

(a) *Availability for deduction for compliance.* TR NO_X Ozone Season allowances are available to be deducted for compliance with a source's TR NO_X Ozone Season emissions limitation for a control period in a given year only if the TR NO_X Ozone Season allowances:

(1) Were allocated for such control period or a control period in a prior year; and

(2) Are held in the source's compliance account as of the allowance transfer deadline for such control period.

(b) *Deductions for compliance.* After the recordation, in accordance with § 97.523, of TR NO_X Ozone Season allowance transfers submitted by the allowance transfer deadline for a control period in a given year, the Administrator will deduct from each source's compliance account TR NO_X Ozone Season allowances available under paragraph (a) of this section in order to determine whether the source meets the TR NO_X Ozone Season emissions limitation for such control period, as follows:

(1) Until the amount of TR NO_X Ozone Season allowances deducted equals the number of tons of total NO_X emissions from all TR NO_X Ozone Season units at the source for such control period; or

(2) If there are insufficient TR NO_X Ozone Season allowances to complete the deductions in paragraph (b)(1) of this section, until no more TR NO_X Ozone Season allowances available under paragraph (a) of this section remain in the compliance account.

(c)(1) *Identification of TR NO_X Ozone Season allowances by serial number.* The authorized account representative for a source's compliance account may request that specific TR NO_X Ozone Season allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period in a given year in accordance with paragraph (b) or (d) of this section. In order to be complete, such request shall be submitted to the Administrator by the allowance transfer deadline for such control period and include, in a format prescribed by the Administrator, the identification of the TR NO_X Ozone Season source and the appropriate serial numbers.

(2) *First-in, first-out.* The Administrator will deduct TR NO_X Ozone Season allowances under paragraph (b) or (d) of this section from the source's compliance account in accordance with a complete request under paragraph (c)(1) of this section or, in the absence of such request or in the case of identification of an insufficient amount of TR NO_X Ozone Season allowances in such request, on a first-in, first-out accounting basis in the following order:

(i) Any TR NO_X Ozone Season allowances that were allocated to the units at the source and not transferred out of the compliance account, in the order of recordation; and then

(ii) Any TR NO_X Ozone Season allowances that were allocated to any unit and transferred to and recorded in the compliance account pursuant to this subpart, in the order of recordation.

(d) *Deductions for excess emissions.* After making the deductions for compliance under paragraph (b) of this section for a control period in a year in which the TR NO_X Ozone Season source has excess emissions, the Administrator will deduct from the source's compliance account an amount of TR NO_X Ozone Season allowances, allocated for a control period in a prior year or the control period in the year of the excess emissions or in the immediately following year, equal to two times the number of tons of the source's excess emissions.

(e) *Recordation of deductions.* The Administrator will record in the appropriate compliance account all deductions from such an account under paragraphs (b) and (d) of this section.

§ 97.525 Compliance with TR NO_X Ozone Season assurance provisions.

(a) *Availability for deduction.* TR NO_X Ozone Season allowances are available to be deducted for compliance with the TR NO_X Ozone Season assurance provisions for a control period in a given year by the owners and operators of a group of one or more TR NO_X Ozone Season sources and units in a State (and Indian country within the borders of such State) only if the TR NO_X Ozone Season allowances:

(1) Were allocated for a control period in a prior year or the control period in the given year or in the immediately following year; and

(2) Are held in the assurance account, established by the Administrator for such owners and operators of such group of TR NO_X Ozone Season sources and units in such State (and Indian country within the borders of such State) under paragraph (b)(3) of this section, as of the deadline established in paragraph (b)(4) of this section.

(b) *Deductions for compliance.* The Administrator will deduct TR NO_X Ozone Season allowances available under paragraph (a) of this section for compliance with the TR NO_X Ozone Season assurance provisions for a State for a control period in a given year in accordance with the following procedures:

(1) By June 1, 2018 and June 1 of each year thereafter, the Administrator will:

(i) Calculate, for each State (and Indian country within the borders of such State), the total NO_X emissions from all TR NO_X Ozone Season units at TR NO_X Ozone Season sources in the State (and Indian country within the borders of such State) during the control period in the year before the year of this calculation deadline and the amount, if any, by which such total NO_X emissions exceed the State assurance level as described in § 97.506(c)(2)(iii); and

(ii) Promulgate a notice of data availability of the results of the calculations required in paragraph (b)(1)(i) of this section, including separate calculations of the NO_X emissions from each TR NO_X Ozone Season source.

(2) For each notice of data availability required in paragraph (b)(1)(ii) of this section and for any State (and Indian country within the borders of such State) identified in such notice as having TR NO_X Ozone Season units with total NO_X emissions exceeding the State assurance level for a control period in a given year, as described in § 97.506(c)(2)(iii):

(i) By July 1 immediately after the promulgation of such notice, the designated representative of each TR NO_X Ozone Season source in each such State (and Indian country within the borders of such State) shall submit a statement, in a format prescribed by the Administrator, providing for each TR NO_X Ozone Season unit (if any) at the source that operates during, but is not allocated an amount of TR NO_X Ozone Season allowances for, such control period, the unit's allowable NO_X emission rate for such control period and, if such rate is expressed in lb per mmBtu, the unit's heat rate.

(ii) By August 1 immediately after the promulgation of such notice, the Administrator will calculate, for each such State (and Indian country within the borders of such State) and such control period and each common designated representative for such control period for a group of one or more TR NO_X Ozone Season sources and units in the State (and Indian country within the borders of such State), the common designated representative's share of the total NO_X emissions from all TR NO_X Ozone Season units at TR NO_X Ozone Season sources in the State (and Indian country within the borders of such State), the common designated representative's assurance level, and the amount (if any) of TR NO_X Ozone Season allowances that the owners and operators of such group of sources and units must hold in accordance with the calculation formula in § 97.506(c)(2)(i) and will promulgate a notice of data availability of the results of these calculations.

(iii) The Administrator will provide an opportunity for submission of objections to the calculations referenced by the notice of data availability required in paragraph (b)(2)(ii) of this section and the calculations referenced by the relevant notice of data availability required in paragraph (b)(1)(i) of this section.

(A) Objections shall be submitted by the deadline specified in such notice and shall be limited to addressing whether the calculations referenced in the relevant notice required under paragraph (b)(1)(ii) of this section and referenced in the notice required under paragraph (b)(2)(ii) of this section are in accordance with § 97.506(c)(2)(iii), §§ 97.506(b) and 97.530 through 97.535, the definitions of ''common designated representative'', ''common designated representative's assurance level'', and ''common designated representative's

share'' in § 97.502, and the calculation formula in § 97.506(c)(2)(i).

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(2)(iii)(A) of this section. By October 1 immediately after the promulgation of such notice, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(iii)(A) of this section.

(3) For any State (and Indian country within the borders of such State) referenced in each notice of data availability required in paragraph (b)(2)(iii)(B) of this section as having TR NO_X Ozone Season units with total NO_X emissions exceeding the State assurance level for a control period in a given year, the Administrator will establish one assurance account for each set of owners and operators referenced, in the notice of data availability required under paragraph (b)(2)(iii)(B) of this section, as all of the owners and operators of a group of TR NO_X Ozone Season sources and units in the State (and Indian country within the borders of such State) having a common designated representative for such control period and as being required to hold TR NO_X Ozone Season allowances.

(4)(i) As of midnight of November 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii)(B) of this section, the owners and operators described in paragraph (b)(3) of this section shall hold in the assurance account established for the them and for the appropriate TR NO_X Ozone Season sources, TR NO_X Ozone Season units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section a total amount of TR NO_X Ozone Season allowances, available for deduction under paragraph (a) of this section, equal to the amount such owners and operators are required to hold with regard to such sources, units and State (and Indian country within the borders of such State) as calculated by the Administrator and referenced in such notice.

(ii) Notwithstanding the allowance-holding deadline specified in paragraph (b)(4)(i) of this section, if November 1 is not a business day, then such allowance-holding deadline shall be midnight of the first business day thereafter.

(5) After November 1 (or the date described in paragraph (b)(4)(ii) of this section) immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii)(B) of this section and after the recordation, in accordance with § 97.523, of TR NO_X Ozone Season allowance transfers submitted by midnight of such date, the Administrator will determine whether the owners and operators described in paragraph (b)(3) of this section hold, in the assurance account for the appropriate TR NO_X Ozone Season sources, TR NO_X Ozone Season units, and State (and Indian country within the borders of such State) established under paragraph (b)(3) of this section, the amount of TR NO_X Ozone Season allowances available under paragraph (a) of this section that the owners and operators are required to hold with regard to such sources, units, and State (and Indian country within the borders of such State) as calculated by the Administrator and referenced in the notice required in paragraph (b)(2)(iii)(B) of this section.

(6) Notwithstanding any other provision of this subpart and any revision, made by or submitted to the Administrator after the promulgation of the notice of data availability required in paragraph (b)(2)(iii)(B) of this section for a control period in a given year, of any data used in making the calculations referenced in such notice, the amounts of TR NO_X Ozone Season allowances that the owners and operators are required to hold in accordance with § 97.506(c)(2)(i) for such control period shall continue to be such amounts as calculated by the Administrator and referenced in such notice required in paragraph (b)(2)(iii)(B) of this section, except as follows:

(i) If any such data are revised by the Administrator as a result of a decision in or settlement of litigation concerning such data on appeal under part 78 of this chapter of such notice, or on appeal under section 307 of the Clean

Air Act of a decision rendered under part 78 of this chapter on appeal of such notice, then the Administrator will use the data as so revised to recalculate the amounts of TR NO_X Ozone Season allowances that owners and operators are required to hold in accordance with the calculation formula in § 97.506(c)(2)(i) for such control period with regard to the TR NO_X Ozone Season sources, TR NO_X Ozone Season units, and State (and Indian country within the borders of such State) involved, provided that such litigation under part 78 of this chapter, or the proceeding under part 78 of this chapter that resulted in the decision appealed in such litigation under section 307 of the Clean Air Act, was initiated no later than 30 days after promulgation of such notice required in paragraph (b)(2)(iii)(B) of this section.

(ii) If any such data are revised by the owners and operators of a TR NO_X Ozone Season source and TR NO_X Ozone Season unit whose designated representative submitted such data under paragraph (b)(2)(i) of this section, as a result of a decision in or settlement of litigation concerning such submission, then the Administrator will use the data as so revised to recalculate the amounts of TR NO_X Ozone Season allowances that owners and operators are required to hold in accordance with the calculation formula in § 97.506(c)(2)(i) for such control period with regard to the TR NO_X Ozone Season sources, TR NO_X Ozone Season units, and State (and Indian country within the borders of such State) involved, provided that such litigation was initiated no later than 30 days after promulgation of such notice required in paragraph (b)(2)(iii)(B) of this section.

(iii) If the revised data are used to recalculate, in accordance with paragraphs (b)(6)(i) and (ii) of this section, the amount of TR NO_X Ozone Season allowances that the owners and operators are required to hold for such control period with regard to the TR NO_X Ozone Season sources, TR NO_X Ozone Season units, and State (and Indian country within the borders of such State) involved—

(A) Where the amount of TR NO_X Ozone Season allowances that the owners and operators are required to hold increases as a result of the use of all such revised data, the Administrator will establish a new, reasonable deadline on which the owners and operators shall hold the additional amount of TR NO_X Ozone Season allowances in the assurance account established by the Administrator for the appropriate TR NO_X Ozone Season sources, TR NO_X Ozone Season units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section. The owners' and operators' failure to hold such additional amount, as required, before the new deadline shall not be a violation of the Clean Air Act. The owners' and operators' failure to hold such additional amount, as required, as of the new deadline shall be a violation of the Clean Air Act. Each TR NO_X Ozone Season allowance that the owners and operators fail to hold as required as of the new deadline, and each day in such control period, shall be a separate violation of the Clean Air Act.

(B) For the owners and operators for which the amount of TR NO_X Ozone Season allowances required to be held decreases as a result of the use of all such revised data, the Administrator will record, in all accounts from which TR NO_X Ozone Season allowances were transferred by such owners and operators for such control period to the assurance account established by the Administrator for the appropriate at TR NO_X Ozone Season sources, TR NO_X Ozone Season units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section, a total amount of the TR NO_X Ozone Season allowances held in such assurance account equal to the amount of the decrease. If TR NO_X Ozone Season allowances were transferred to such assurance account from more than one account, the amount of TR NO_X Ozone Season allowances recorded in each such transferor account will be in proportion to the percentage of the total amount of TR NO_X Ozone Season allowances transferred to such assurance account for such control period from such transferor account.

(C) Each TR NO_X Ozone Season allowance held under paragraph (b)(6)(iii)(A)

of this section as a result of recalculation of requirements under the TR NO_X Ozone Season assurance provisions for such control period must be a TR NO_X Ozone Season allowance allocated for a control period in a year before or the year immediately following, or in the same year as, the year of such control period.

[76 FR 48406, Aug. 8, 2011, as amended at 77 FR 10338, Feb. 21, 2012; 79 FR 71672, Dec. 3, 2014]

§ 97.526 Banking.

(a) A TR NO_X Ozone Season allowance may be banked for future use or transfer in a compliance account or a general account in accordance with paragraph (b) of this section.

(b) Any TR NO_X Ozone Season allowance that is held in a compliance account or a general account will remain in such account unless and until the TR NO_X Ozone Season allowance is deducted or transferred under § 97.511(c), § 97.523, § 97.524, § 97.525, § 97.527, or § 97.528.

§ 97.527 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any Allowance Management System account. Within 10 business days of making such correction, the Administrator will notify the authorized account representative for the account.

§ 97.528 Administrator's action on submissions.

(a) The Administrator may review and conduct independent audits concerning any submission under the TR NO_X Ozone Season Trading Program and make appropriate adjustments of the information in the submission.

(b) The Administrator may deduct TR NO_X Ozone Season allowances from or transfer TR NO_X Ozone Season allowances to a compliance account or an assurance account, based on the information in a submission, as adjusted under paragraph (a)(1) of this section, and record such deductions and transfers.

§ 97.529 [Reserved]

§ 97.530 General monitoring, recordkeeping, and reporting requirements.

The owners and operators, and to the extent applicable, the designated representative, of a TR NO_X Ozone Season unit, shall comply with the monitoring, recordkeeping, and reporting requirements as provided in this subpart and subpart H of part 75 of this chapter. For purposes of applying such requirements, the definitions in § 97.502 and in § 72.2 of this chapter shall apply, the terms ''affected unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') in part 75 of this chapter shall be deemed to refer to the terms ''TR NO_X Ozone Season unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') respectively as defined in § 97.502, and the term ''newly affected unit'' shall be deemed to mean ''newly affected TR NO_X Ozone Season unit''. The owner or operator of a unit that is not a TR NO_X Ozone Season unit but that is monitored under § 75.72(b)(2)(ii) of this chapter shall comply with the same monitoring, recordkeeping, and reporting requirements as a TR NO_X Ozone Season unit.

(a) *Requirements for installation, certification, and data accounting.* The owner or operator of each TR NO_X Ozone Season unit shall:

(1) Install all monitoring systems required under this subpart for monitoring NO_X mass emissions and individual unit heat input (including all systems required to monitor NO_X emission rate, NO_X concentration, stack gas moisture content, stack gas flow rate, CO_2 or O_2 concentration, and fuel flow rate, as applicable, in accordance with §§ 75.71 and 75.72 of this chapter);

(2) Successfully complete all certification tests required under § 97.531 and meet all other requirements of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraph (a)(1) of this section; and

(3) Record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section.

(b) *Compliance deadlines*. Except as provided in paragraph (e) of this section, the owner or operator shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the following dates and shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the following dates.

(1) For the owner or operator of a TR NO_X Ozone Season unit that commences commercial operation before July 1, 2014, May 1, 2015.

(2) For the owner or operator of a TR NO_X Ozone Season unit that commences commercial operation on or after July 1, 2014 and that reports on an annual basis under § 97.534(d), by the later of the following:

(i) 180 calendar days after the date on which the unit commences commercial operation; or

(ii) May 1, 2015.

(3) For the owner or operator of a TR NO_X Ozone Season unit that commences commercial operation on or after July 1, 2014 and that reports on a control period basis under § 97.534(d)(2)(ii), by the following date:

(i) 180 calendar days after the date on which the unit commences commercial operation; or

(ii) If the compliance date under paragraph (b)(3)(i) of this section is not during a control period, May 1 immediately after the compliance date under paragraph (b)(3)(i) of this section.

(4) The owner or operator of a TR NO_X Ozone Season unit for which construction of a new stack or flue or installation of add-on NO_X emission controls is completed after the applicable deadline under paragraph (b)(1), (2), or (3) of this section shall meet the requirements of §§ 75.4(e)(1) through (e)(4) of this chapter, except that:

(i) Such requirements shall apply to the monitoring systems required under § 97.530 through § 97.535, rather than the monitoring systems required under part 75 of this chapter;

(ii) NO_X emission rate, NO_X concentration, stack gas moisture content, stack gas volumetric flow rate, and O_2 or CO_2 concentration data shall be determined and reported, rather than the data listed in § 75.4(e)(2) of this chapter; and

(iii) Any petition for another procedure under § 75.4(e)(2) of this chapter shall be submitted under § 97.535, rather than § 75.66.

(c) *Reporting data*. The owner or operator of a TR NO_X Ozone Season unit that does not meet the applicable compliance date set forth in paragraph (b) of this section for any monitoring system under paragraph (a)(1) of this section shall, for each such monitoring system, determine, record, and report maximum potential (or, as appropriate, minimum potential) values for NO_X concentration, NO_X emission rate, stack gas flow rate, stack gas moisture content, fuel flow rate, and any other parameters required to determine NO_X mass emissions and heat input in accordance with § 75.31(b)(2) or (c)(3) of this chapter, section 2.4 of appendix D to part 75 of this chapter, or section 2.5 of appendix E to part 75 of this chapter, as applicable.

(d) *Prohibitions*. (1) No owner or operator of a TR NO_X Ozone Season unit shall use any alternative monitoring system, alternative reference method, or any other alternative to any requirement of this subpart without having obtained prior written approval in accordance with § 97.535.

(2) No owner or operator of a TR NO_X Ozone Season unit shall operate the unit so as to discharge, or allow to be discharged, NO_X to the atmosphere without accounting for all such NO_X in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(3) No owner or operator of a TR NO_X Ozone Season unit shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording NO_X mass discharged into the atmosphere or heat input, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(4) No owner or operator of a TR NO_X Ozone Season unit shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by an exemption under § 97.505 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the Administrator for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The designated representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with § 97.531(d)(3)(i).

(e) *Long-term cold storage.* The owner or operator of a TR NO_X Ozone Season unit is subject to the applicable provisions of § 75.4(d) of this chapter concerning units in long-term cold storage.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.531 Initial monitoring system certification and recertification procedures.

(a) The owner or operator of a TR NO_X Ozone Season unit shall be exempt from the initial certification requirements of this section for a monitoring system under § 97.530(a)(1) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with part 75 of this chapter; and

(2) The applicable quality-assurance and quality-control requirements of § 75.21 of this chapter and appendices B, D, and E to part 75 of this chapter are fully met for the certified monitoring system described in paragraph (a)(1) of this section.

(b) The recertification provisions of this section shall apply to a monitoring system under § 97.530(a)(1) that is exempt from initial certification requirements under paragraph (a) of this section.

(c) If the Administrator has previously approved a petition under § 75.17(a) or (b) of this chapter for apportioning the NO_X emission rate measured in a common stack or a petition under § 75.66 of this chapter for an alternative to a requirement in § 75.12 or § 75.17 of this chapter, the designated representative shall resubmit the petition to the Administrator under § 97.535 to determine whether the approval applies under the TR NO_X Ozone Season Trading Program.

(d) Except as provided in paragraph (a) of this section, the owner or operator of a TR NO_X Ozone Season unit shall comply with the following initial certification and recertification procedures for a continuous monitoring system (*i.e.*, a continuous emission monitoring system and an excepted monitoring system under appendices D and E to part 75 of this chapter) under § 97.530(a)(1). The owner or operator of a unit that qualifies to use the low mass emissions excepted monitoring methodology under § 75.19 of this chapter or that qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall comply with the procedures in paragraph (e) or (f) of this section respectively.

(1) Requirements for initial certification. The owner or operator shall ensure that each continuous monitoring system under § 97.530(a)(1) (including the automated data acquisition and handling system) successfully completes all of the initial certification testing required under § 75.20 of this chapter by the applicable deadline in § 97.530(b). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this subpart in a location where no such monitoring system was previously installed, initial certification in accordance with § 75.20 of this chapter is required.

(2) Requirements for recertification. Whenever the owner or operator makes a replacement, modification, or change in any certified continuous emission monitoring system under § 97.530(a)(1) that may significantly affect the ability of the system to accurately measure or record NO_X mass emissions or

heat input rate or to meet the quality-assurance and quality-control requirements of § 75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the monitoring system in accordance with § 75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify each continuous emission monitoring system whose accuracy is potentially affected by the change, in accordance with § 75.20(b) of this chapter. Examples of changes to a continuous emission monitoring system that require recertification include: replacement of the analyzer, complete replacement of an existing continuous emission monitoring system, or change in location or orientation of the sampling probe or site. Any fuel flowmeter system, and any excepted NO_X monitoring system under appendix E to part 75 of this chapter, under § 97.530(a)(1) are subject to the recertification requirements in § 75.20(g)(6) of this chapter.

(3) Approval process for initial certification and recertification. For initial certification of a continuous monitoring system under § 97.530(a)(1), paragraphs (d)(3)(i) through (v) of this section apply. For recertifications of such monitoring systems, paragraphs (d)(3)(i) through (iv) of this section and the procedures in §§ 75.20(b)(5) and (g)(7) of this chapter (in lieu of the procedures in paragraph (d)(3)(v) of this section) apply, provided that in applying paragraphs (d)(3)(i) through (iv) of this section, the words ''certification'' and ''initial certification'' are replaced by the word ''recertification'' and the word ''certified'' is replaced by with the word ''recertified''.

(i) Notification of certification. The designated representative shall submit to the appropriate EPA Regional Office and the Administrator written notice of the dates of certification testing, in accordance with § 97.533.

(ii) Certification application. The designated representative shall submit to the Administrator a certification application for each monitoring system. A complete certification application shall include the information specified in § 75.63 of this chapter.

(iii) Provisional certification date. The provisional certification date for a monitoring system shall be determined in accordance with § 75.20(a)(3) of this chapter. A provisionally certified monitoring system may be used under the TR NO_X Ozone Season Trading Program for a period not to exceed 120 days after receipt by the Administrator of the complete certification application for the monitoring system under paragraph (d)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the Administrator does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of the date of receipt of the complete certification application by the Administrator.

(iv) Certification application approval process. The Administrator will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under paragraph (d)(3)(ii) of this section. In the event the Administrator does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the TR NO_X Ozone Season Trading Program.

(A) Approval notice. If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of part 75 of this chapter, then the Administrator will issue a written notice of approval of the certification application within 120 days of receipt.

(B) Incomplete application notice. If the certification application is not complete, then the Administrator will issue a written notice of incompleteness that sets a reasonable date by

which the designated representative must submit the additional information required to complete the certification application. If the designated representative does not comply with the notice of incompleteness by the specified date, then the Administrator may issue a notice of disapproval under paragraph (d)(3)(iv)(C) of this section.

(C) Disapproval notice. If the certification application shows that any monitoring system does not meet the performance requirements of part 75 of this chapter or if the certification application is incomplete and the requirement for disapproval under paragraph (d)(3)(iv)(B) of this section is met, then the Administrator will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the Administrator and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification (as defined under § 75.20(a)(3) of this chapter).

(D) Audit decertification. The Administrator may issue a notice of disapproval of the certification status of a monitor in accordance with § 97.532(b).

(v) Procedures for loss of certification. If the Administrator issues a notice of disapproval of a certification application under paragraph (d)(3)(iv)(C) of this section or a notice of disapproval of certification status under paragraph (d)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each disapproved monitoring system, for each hour of unit operation during the period of invalid data specified under § 75.20(a)(4)(iii), § 75.20(g)(7), or § 75.21(e) of this chapter and continuing until the applicable date and hour specified under § 75.20(a)(5)(i) or (g)(7) of this chapter:

(1) For a disapproved NO_X emission rate (*i.e.*, NO_X-diluent) system, the maximum potential NO_X emission rate, as defined in § 72.2 of this chapter.

(2) For a disapproved NO_X pollutant concentration monitor and disapproved flow monitor, respectively, the maximum potential concentration of NO_X and the maximum potential flow rate, as defined in sections 2.1.2.1 and 2.1.4.1 of appendix A to part 75 of this chapter.

(3) For a disapproved moisture monitoring system and disapproved diluent gas monitoring system, respectively, the minimum potential moisture percentage and either the maximum potential CO_2 concentration or the minimum potential O_2 concentration (as applicable), as defined in sections 2.1.5, 2.1.3.1, and 2.1.3.2 of appendix A to part 75 of this chapter.

(4) For a disapproved fuel flowmeter system, the maximum potential fuel flow rate, as defined in section 2.4.2.1 of appendix D to part 75 of this chapter.

(5) For a disapproved excepted NO_X monitoring system under appendix E to part 75 of this chapter, the fuel-specific maximum potential NO_X emission rate, as defined in § 72.2 of this chapter.

(B) The designated representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (d)(3)(i) and (ii) of this section.

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the Administrator's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(e) The owner or operator of a unit qualified to use the low mass emissions (LME) excepted methodology under § 75.19 of this chapter shall meet the applicable certification and recertification requirements in §§ 75.19(a)(2) and 75.20(h) of this chapter. If the owner or operator of such a unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall also meet the certification and recertification requirements in § 75.20(g) of this chapter.

(f) The designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator under subpart E of part 75 of this chapter shall comply with the applicable notification and application procedures of § 75.20(f) of this chapter.

§ 97.532 Monitoring system out-of-control periods.

(a) *General provisions.* Whenever any monitoring system fails to meet the quality-assurance and quality-control requirements or data validation requirements of part 75 of this chapter, data shall be substituted using the applicable missing data procedures in subpart D or subpart H of, or appendix D or appendix E to, part 75 of this chapter.

(b) *Audit decertification.* Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under § 97.531 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the Administrator will issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the Administrator or any State or permitting authority. By issuing the notice of disapproval, the Administrator revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the applicable initial certification or recertification procedures in § 97.531 for each disapproved monitoring system.

§ 97.533 Notifications concerning monitoring.

The designated representative of a TR NO_X Ozone Season unit shall submit written notice to the Administrator in accordance with § 75.61 of this chapter.

§ 97.534 Recordkeeping and reporting.

(a) *General provisions.* The designated representative shall comply with all recordkeeping and reporting requirements in paragraphs (b) through (e) of this section, the applicable recordkeeping and reporting requirements under § 75.73 of this chapter, and the requirements of § 97.514(a).

(b) *Monitoring plans.* The owner or operator of a TR NO_X Ozone Season unit shall comply with requirements of § 75.73(c) and (e) of this chapter.

(c) *Certification applications.* The designated representative shall submit an application to the Administrator within 45 days after completing all initial certification or recertification tests required under § 97.531, including the information required under § 75.63 of this chapter.

(d) *Quarterly reports.* The designated representative shall submit quarterly reports, as follows:

(1) If the TR NO_X Ozone Season unit is subject to the Acid Rain Program or a TR NO_X Annual emissions limitation or if the owner or operator of such unit chooses to report on an annual basis under this subpart, the designated representative shall meet the requirements of subpart H of part 75 of this chapter (concerning monitoring of NO_X mass emissions) for such unit for the entire year and shall report the NO_X mass emissions data and heat input data for such unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(i) For a unit that commences commercial operation before July 1, 2014, the calendar quarter covering May 1, 2015 through June 30, 2015; or

(ii) For a unit that commences commercial operation on or after July 1, 2014, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.530(b), unless that quarter is the third or fourth quarter of 2014 or the first quarter of 2015, in which case reporting shall commence in the quarter covering May 1, 2015 through June 30, 2015.

(2) If the TR NO_X Ozone Season unit is not subject to the Acid Rain Program or a TR NO_X Annual emissions

limitation, then the designated representative shall either:

(i) Meet the requirements of subpart H of part 75 (concerning monitoring of NO_X mass emissions) for such unit for the entire year and report the NO_X mass emissions data and heat input data for such unit in accordance with paragraph (d)(1) of this section; or

(ii) Meet the requirements of subpart H of part 75 for the control period (including the requirements in § 75.74(c) of this chapter) and report NO_X mass emissions data and heat input data (including the data described in § 75.74(c)(6) of this chapter) for such unit only for the control period of each year and report, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(A) For a unit that commences commercial operation before July 1, 2014, the calendar quarter covering May 1, 2015 through June 30, 2015; or

(B) For a unit that commences commercial operation on or after July 1, 2014, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.530(b), unless that date is not during a control period, in which case reporting shall commence in the quarter that includes May 1 through June 30 of the first control period after such date.

(3) The designated representative shall submit each quarterly report to the Administrator within 30 days after the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in § 75.73(f) of this chapter.

(4) For TR NO_X Ozone Season units that are also subject to the Acid Rain Program, TR NO_X Annual Trading Program, TR SO_2 Group 1 Trading Program, or TR SO_2 Group 2 Trading Program, quarterly reports shall include the applicable data and information required by subparts F through H of part 75 of this chapter as applicable, in addition to the NO_X mass emission data, heat input data, and other information required by this subpart.

(5) The Administrator may review and conduct independent audits of any quarterly report in order to determine whether the quarterly report meets the requirements of this subpart and part 75 of this chapter, including the requirement to use substitute data.

(i) The Administrator will notify the designated representative of any determination that the quarterly report fails to meet any such requirements and specify in such notification any corrections that the Administrator believes are necessary to make through resubmission of the quarterly report and a reasonable time period within which the designated representative must respond. Upon request by the designated representative, the Administrator may specify reasonable extensions of such time period. Within the time period (including any such extensions) specified by the Administrator, the designated representative shall resubmit the quarterly report with the corrections specified by the Administrator, except to the extent the designated representative provides information demonstrating that a specified correction is not necessary because the quarterly report already meets the requirements of this subpart and part 75 of this chapter that are relevant to the specified correction.

(6) Any resubmission of a quarterly report shall meet the requirements applicable to the submission of a quarterly report under this subpart and part 75 of this chapter, except for the deadline set forth in paragraph (d)(3) of this section.

(e) *Compliance certification*. The designated representative shall submit to the Administrator a compliance certification (in a format prescribed by the Administrator) in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(1) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications;

(2) For a unit with add-on NO_X emission controls and for all hours where NO_X data are substituted in accordance with § 75.34(a)(1) of this chapter, the

add-on emission controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B to part 75 of this chapter and the substitute data values do not systematically underestimate NO_X emissions; and

(3) For a unit that is reporting on a control period basis under paragraph (d)(2)(ii) of this section, the NO_X emission rate and NO_X concentration values substituted for missing data under subpart D of part 75 of this chapter are calculated using only values from a control period and do not systematically underestimate NO_X emissions.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.535 Petitions for alternatives to monitoring, recordkeeping, or reporting requirements.

(a) The designated representative of a TR NO_X Ozone Season unit may submit a petition under § 75.66 of this chapter to the Administrator, requesting approval to apply an alternative to any requirement of §§ 97.530 through 97.534.

(b) A petition submitted under paragraph (a) of this section shall include sufficient information for the evaluation of the petition, including, at a minimum, the following information:

(i) Identification of each unit and source covered by the petition;

(ii) A detailed explanation of why the proposed alternative is being suggested in lieu of the requirement;

(iii) A description and diagram of any equipment and procedures used in the proposed alternative;

(iv) A demonstration that the proposed alternative is consistent with the purposes of the requirement for which the alternative is proposed and with the purposes of this subpart and part 75 of this chapter and that any adverse effect of approving the alternative will be *de minimis*: and

(v) Any other relevant information that the Administrator may require.

(c) Use of an alternative to any requirement referenced in paragraph (a) of this section is in accordance with this subpart only to the extent that the petition is approved in writing by the Administrator and that such use is in accordance with such approval.

Subpart CCCCC—TR SO_2 Group 1 Trading Program

SOURCE: 76 FR 48432, Aug. 8, 2011, unless otherwise noted.

§ 97.601 Purpose.

This subpart sets forth the general, designated representative, allowance, and monitoring provisions for the Transport Rule (TR) SO_2 Group 1 Trading Program, under section 110 of the Clean Air Act and § 52.39 of this chapter, as a means of mitigating interstate transport of fine particulates and sulfur dioxide.

§ 97.602 Definitions.

The terms used in this subpart shall have the meanings set forth in this section as follows:

Acid Rain Program means a multistate SO_2 and NO_X air pollution control and emission reduction program established by the Administrator under title IV of the Clean Air Act and parts 72 through 78 of this chapter.

Administrator means the Administrator of the United States Environmental Protection Agency or the Director of the Clean Air Markets Division (or its successor determined by the Administrator) of the United States Environmental Protection Agency, the Administrator's duly authorized representative under this subpart.

Allocate or *allocation* means, with regard to TR SO_2 Group 1 allowances, the determination by the Administrator, State, or permitting authority, in accordance with this subpart and any SIP revision submitted by the State and approved by the Administrator under § 52.39(d), (e), or (f) of this chapter, of the amount of such TR SO_2 Group 1 allowances to be initially credited, at no cost to the recipient, to:

(1) A TR SO_2 Group 1 unit;

(2) A new unit set-aside;

(3) An Indian country new unit set-aside; or

(4) An entity not listed in paragraphs (1) through (3) of this definition;

(5) Provided that, if the Administrator, State, or permitting authority initially credits, to a TR SO_2 Group 1 unit qualifying for an initial credit, a credit in the amount of zero TR SO_2

Group 1 allowances, the TR SO_2 Group 1 unit will be treated as being allocated an amount (*i.e.*, zero) of TR SO_2 Group 1 allowances.

Allowable SO_2 emission rate means, for a unit, the most stringent State or federal SO_2 emission rate limit (in lb/MWhr or, if in lb/mmBtu, converted to lb/MWhr by multiplying it by the unit's heat rate in mmBtu/MWhr) that is applicable to the unit and covers the longest averaging period not exceeding one year.

Allowance Management System means the system by which the Administrator records allocations, deductions, and transfers of TR SO_2 Group 1 allowances under the TR SO_2 Group 1 Trading Program. Such allowances are allocated, recorded, held, deducted, or transferred only as whole allowances.

Allowance Management System account means an account in the Allowance Management System established by the Administrator for purposes of recording the allocation, holding, transfer, or deduction of TR SO_2 Group 1 allowances.

Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a TR SO_2 Group 1 allowance transfer must be submitted for recordation in a TR SO_2 Group 1 source's compliance account in order to be available for use in complying with the source's TR SO_2 Group 1 emissions limitation for such control period in accordance with §§ 97.606 and 97.624.

Alternate designated representative means, for a TR SO_2 Group 1 source and each TR SO_2 Group 1 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to act on behalf of the designated representative in matters pertaining to the TR SO_2 Group 1 Trading Program. If the TR SO_2 Group 1 source is also subject to the Acid Rain Program, TR NO_X Annual Trading Program, or TR NO_X Ozone Season Trading Program, then this natural person shall be the same natural person as the alternate designated representative, as defined in the respective program.

Assurance account means an Allowance Management System account, established by the Administrator under § 97.625(b)(3) for certain owners and operators of a group of one or more TR SO_2 Group 1 sources and units in a given State (and Indian country within the borders of such State), in which are held TR SO_2 Group 1 allowances available for use for a control period in a given year in complying with the TR SO_2 Group 1 assurance provisions in accordance with §§ 97.606 and 97.625.

Authorized account representative means, for a general account, the natural person who is authorized, in accordance with this subpart, to transfer and otherwise dispose of TR SO_2 Group 1 allowances held in the general account and, for a TR SO_2 Group 1 source's compliance account, the designated representative of the source.

Automated data acquisition and handling system or *DAHS* means the component of the continuous emission monitoring system, or other emissions monitoring system approved for use under this subpart, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by this subpart.

Biomass means—

(1) Any organic material grown for the purpose of being converted to energy;

(2) Any organic byproduct of agriculture that can be converted into energy; or

(3) Any material that can be converted into energy and is nonmerchantable for other purposes, that is segregated from other material that is nonmerchantable for other purposes, and that is;

(i) A forest-related organic resource, including mill residues, precommercial thinnings, slash, brush, or byproduct from conversion of trees to merchantable material; or

(ii) A wood material, including pallets, crates, dunnage, manufacturing and construction materials (other than

pressure-treated, chemically-treated, or painted wood products), and landscape or right-of-way tree trimmings.

Boiler means an enclosed fossil- or other-fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

Bottoming-cycle unit means a unit in which the energy input to the unit is first used to produce useful thermal energy, where at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

Business day means a day that does not fall on a weekend or a federal holiday.

Certifying official means a natural person who is:

(1) For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy- or decision-making functions for the corporation;

(2) For a partnership or sole proprietorship, a general partner or the proprietor respectively; or

(3) For a local government entity or State, federal, or other public agency, a principal executive officer or ranking elected official.

Clean Air Act means the Clean Air Act, 42 U.S.C. 7401, *et seq*.

Coal means ''coal'' as defined in § 72.2 of this chapter.

Coal-derived fuel means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal, or chemical processing of coal.

Cogeneration system means an integrated group, at a source, of equipment (including a boiler, or combustion turbine, and a steam turbine generator) designed to produce useful thermal energy for industrial, commercial, heating, or cooling purposes and electricity through the sequential use of energy.

Cogeneration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a topping-cycle unit or a bottoming-cycle unit:

(1) Operating as part of a cogeneration system; and

(2) Producing on an annual average basis—

(i) For a topping-cycle unit,

(A) Useful thermal energy not less than 5 percent of total energy output; and

(B) Useful power that, when added to one-half of useful thermal energy produced, is not less than 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output.

(ii) For a bottoming-cycle unit, useful power not less than 45 percent of total energy input;

(3) Provided that the requirements in paragraph (2) of this definition shall not apply to a calendar year referenced in paragraph (2) of this definition during which the unit did not operate at all;

(4) Provided that the total energy input under paragraphs (2)(i)(B) and (2)(ii) of this definition shall equal the unit's total energy input from all fuel, except biomass if the unit is a boiler; and

(5) Provided that, if, throughout its operation during the 12-month period or a calendar year referenced in paragraph (2) of this definition, a unit is operated as part of a cogeneration system and the cogeneration system meets on a system-wide basis the requirement in paragraph (2)(i)(B) or (2)(ii) of this definition, the unit shall be deemed to meet such requirement during that 12-month period or calendar year.

Combustion turbine means an enclosed device comprising:

(1) If the device is simple cycle, a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and

(2) If the device is combined cycle, the equipment described in paragraph (1) of this definition and any associated duct burner, heat recovery steam generator, and steam turbine.

Commence commercial operation means, with regard to a unit:

(1) To have begun to produce steam, gas, or other heated medium used to

generate electricity for sale or use, including test generation, except as provided in § 97.605.

(i) For a unit that is a TR SO_2 Group 1 unit under § 97.604 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in the introductory text of paragraph (1) of this definition and that subsequently undergoes a physical change or is moved to a new location or source, such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a TR SO_2 Group 1 unit under § 97.604 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in the introductory text of paragraph (1) of this definition and that is subsequently replaced by a unit at the same or a different source, such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

(2) Notwithstanding paragraph (1) of this definition and except as provided in § 97.605, for a unit that is not a TR SO_2 Group 1 unit under § 97.604 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in introductory text of paragraph (1) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a TR SO_2 Group 1 unit under § 97.604.

(i) For a unit with a date for commencement of commercial operation as defined in the introductory text of paragraph (2) of this definition and that subsequently undergoes a physical change or is moved to a different location or source, such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in the introductory text of paragraph (2) of this definition and that is subsequently replaced by a unit at the same or a different source, such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

Common designated representative means, with regard to a control period in a given year, a designated representative where, as of April 1 immediately after the allowance transfer deadline for such control period, the same natural person is authorized under §§ 97.613(a) and 97.615(a) as the designated representative for a group of one or more TR SO_2 Group 1 sources and units located in a State (and Indian country within the borders of such State).

Common designated representative's assurance level means, with regard to a specific common designated representative and a State (and Indian country within the borders of such State) and control period in a given year for which the State assurance level is exceeded as described in § 97.606(c)(2)(iii), the common designated representative's share of the State SO_2 Group 1 trading budget with the variability limit for the State for such control period.

Common designated representative's share means, with regard to a specific common designated representative for a control period in a given year:

(1) With regard to a total amount of SO_2 emissions from all TR SO_2 Group 1 units in a State (and Indian country within the borders of such State) during such control period, the total tonnage of SO_2 emissions during such control period from a group of one or more TR SO_2 Group 1 units located in such State (and such Indian country) and having the common designated representative for such control period;

(2) With regard to a State SO_2 Group 1 trading budget with the variability limit for such control period, the amount (rounded to the nearest allowance) equal to the sum of the total amount of TR SO_2 Group 1 allowances allocated for such control period to a group of one or more TR SO_2 Group 1 units located in the State (and Indian country within the borders of such

State) and having the common designated representative for such control period and of the total amount of TR SO_2 Group 1 allowances purchased by an owner or operator of such TR SO_2 Group 1 units in an auction for such control period and submitted by the State or the permitting authority to the Administrator for recordation in the compliance accounts for such TR SO_2 Group 1 units in accordance with the TR SO_2 Group 1 allowance auction provisions in a SIP revision approved by the Administrator under § 52.39(e) or (f) of this chapter, multiplied by the sum of the State SO_2 Group 1 trading budget under § 97.610(a) and the State's variability limit under § 97.610(b) for such control period and divided by such State SO_2 Group 1 trading budget;

(3) Provided that, in the case of a unit that operates during, but has no amount of TR SO_2 Group 1 allowances allocated under §§ 97.611 and 97.612 for, such control period, the unit shall be treated, solely for purposes of this definition, as being allocated an amount (rounded to the nearest allowance) of TR SO_2 Group 1 allowances for such control period equal to the unit's allowable SO_2 emission rate applicable to such control period, multiplied by a capacity factor of 0.85 (if the unit is a boiler combusting any amount of coal or coal-derived fuel during such control period), 0.24 (if the unit is a simple combustion turbine during such control period), 0.67 (if the unit is a combined cycle turbine during such control period), 0.74 (if the unit is an integrated coal gasification combined cycle unit during such control period), or 0.36 (for any other unit), multiplied by the unit's maximum hourly load as reported in accordance with this subpart and by 8,760 hours/control period, and divided by 2,000 lb/ton.

Common stack means a single flue through which emissions from 2 or more units are exhausted.

Compliance account means an Allowance Management System account, established by the Administrator for a TR SO_2 Group 1 source under this subpart, in which any TR SO_2 Group 1 allowance allocations to the TR SO_2 Group 1 units at the source are recorded and in which are held any TR SO_2 Group 1 allowances available for use for a control period in a given year in complying with the source's TR SO_2 Group 1 emissions limitation in accordance with §§ 97.606 and 97.624.

Continuous emission monitoring system or *CEMS* means the equipment required under this subpart to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes and using an automated data acquisition and handling system (DAHS), a permanent record of SO_2 emissions, stack gas volumetric flow rate, stack gas moisture content, and O_2 or CO_2 concentration (as applicable), in a manner consistent with part 75 of this chapter and §§ 97.630 through 97.635. The following systems are the principal types of continuous emission monitoring systems:

(1) A flow monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);

(2) A SO_2 monitoring system, consisting of a SO_2 pollutant concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of SO_2 emissions, in parts per million (ppm);

(3) A moisture monitoring system, as defined in § 75.11(b)(2) of this chapter and providing a permanent, continuous record of the stack gas moisture content, in percent H_2O;

(4) A CO_2 monitoring system, consisting of a CO_2 pollutant concentration monitor (or an O_2 monitor plus suitable mathematical equations from which the CO_2 concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of CO_2 emissions, in percent CO_2; and

(5) An O_2 monitoring system, consisting of an O_2 concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O_2, in percent O_2.

Control period means the period starting January 1 of a calendar year, except as provided in § 97.606(c)(3), and ending on December 31 of the same year, inclusive.

Designated representative means, for a TR SO_2 Group 1 source and each TR SO_2 Group 1 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to represent and legally bind each owner and operator in matters pertaining to the TR SO_2 Group 1 Trading Program. If the TR SO_2 Group 1 source is also subject to the Acid Rain Program, TR NO_X Annual Trading Program, or TR NO_X Ozone Season Trading Program, then this natural person shall be the same natural person as the designated representative, as defined in the respective program.

Emissions means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the designated representative, and as modified by the Administrator:

(1) In accordance with this subpart; and

(2) With regard to a period before the unit or source is required to measure, record, and report such air pollutants in accordance with this subpart, in accordance with part 75 of this chapter.

Excess emissions means any ton of emissions from the TR SO_2 Group 1 units at a TR SO_2 Group 1 source during a control period in a given year that exceeds the TR SO_2 Group 1 emissions limitation for the source for such control period.

Fossil fuel means—

(1) Natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material; or

(2) For purposes of applying the limitation on ''average annual fuel consumption of fossil fuel'' in §§ 97.604(b)(2)(i)(B) and (ii), natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat.

Fossil-fuel-fired means, with regard to a unit, combusting any amount of fossil fuel in 2005 or any calendar year thereafter.

General account means an Allowance Management System account, established under this subpart, that is not a compliance account or an assurance account.

Generator means a device that produces electricity.

Gross electrical output means, for a unit, electricity made available for use, including any such electricity used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Heat input means, for a unit for a specified period of time, the product (in mmBtu/time) of the gross calorific value of the fuel (in mmBtu/lb) fed into the unit multiplied by the fuel feed rate (in lb of fuel/time), as measured, recorded, and reported to the Administrator by the designated representative and as modified by the Administrator in accordance with this subpart and excluding the heat derived from preheated combustion air, recirculated flue gases, or exhaust.

Heat input rate means, for a unit, the amount of heat input (in mmBtu) divided by unit operating time (in hr) or, for a unit and a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Heat rate means, for a unit, the unit's maximum design heat input (in Btu/hr), divided by the product of 1,000,000 Btu/mmBtu and the unit's maximum hourly load.

Indian country means ''Indian country'' as defined in 18 U.S.C. 1151.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period no less than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option

rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input means, for a unit, the maximum amount of fuel per hour (in Btu/hr) that the unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.

Monitoring system means any monitoring system that meets the requirements of this subpart, including a continuous emission monitoring system, an alternative monitoring system, or an excepted monitoring system under part 75 of this chapter.

Nameplate capacity means, starting from the initial installation of a generator, the maximum electrical generating output (in MWe, rounded to the nearest tenth) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings), such increased maximum amount (in MWe, rounded to the nearest tenth) as of such completion as specified by the person conducting the physical change.

Natural gas means ''natural gas'' as defined in § 72.2 of this chapter.

Newly affected TR SO_2 Group 1 unit means a unit that was not a TR SO_2 Group 1 unit when it began operating but that thereafter becomes a TR SO_2 Group 1 unit.

Operate or *operation* means, with regard to a unit, to combust fuel.

Operator means, for a TR SO_2 Group 1 source or a TR SO_2 Group 1 unit at a source respectively, any person who operates, controls, or supervises a TR SO_2 Group 1 unit at the source or the TR SO_2 Group 1 unit and shall include, but not be limited to, any holding company, utility system, or plant manager of such source or unit.

Owner means, for a TR SO_2 Group 1 source or a TR SO_2 Group 1 unit at a source respectively, any of the following persons:

(1) Any holder of any portion of the legal or equitable title in a TR SO_2 Group 1 unit at the source or the TR SO_2 Group 1 unit;

(2) Any holder of a leasehold interest in a TR SO_2 Group 1 unit at the source or the TR SO_2 Group 1 unit, provided that, unless expressly provided for in a leasehold agreement, ''owner'' shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based (either directly or indirectly) on the revenues or income from such TR SO_2 Group 1 unit; and

(3) Any purchaser of power from a TR SO_2 Group 1 unit at the source or the TR SO_2 Group 1 unit under a life-of-the-unit, firm power contractual arrangement.

Permanently retired means, with regard to a unit, a unit that is unavailable for service and that the unit's owners and operators do not expect to return to service in the future.

Permitting authority means ''permitting authority'' as defined in §§ 70.2 and 71.2 of this chapter.

Potential electrical output capacity means, for a unit, 33 percent of the unit's maximum design heat input, divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

Receive or *receipt of* means, when referring to the Administrator, to come into possession of a document, information, or correspondence (whether sent in hard copy or by authorized electronic transmission), as indicated in an official log, or by a notation made on the document, information, or correspondence, by the Administrator in the regular course of business.

Recordation, record, or *recorded* means, with regard to TR SO_2 Group 1 allowances, the moving of TR SO_2 Group 1 allowances by the Administrator into, out of, or between Allowance Management System accounts, for purposes of allocation, auction, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing

for an air pollutant as specified in § 75.22 of this chapter.

Replacement, replace, or *replaced* means, with regard to a unit, the demolishing of a unit, or the permanent retirement and permanent disabling of a unit, and the construction of another unit (the replacement unit) to be used instead of the demolished or retired unit (the replaced unit).

Sequential use of energy means:

(1) The use of reject heat from electricity production in a useful thermal energy application or process; or

(2) The use of reject heat from useful thermal energy application or process in electricity production.

Serial number means, for a TR SO_2 Group 1 allowance, the unique identification number assigned to each TR SO_2 Group 1 allowance by the Administrator.

Solid waste incineration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a ''solid waste incineration unit'' as defined in section 129(g)(1) of the Clean Air Act.

Source means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons. This definition does not change or otherwise affect the definition of ''major source'', ''stationary source'', or ''source'' as set forth and implemented in a title V operating permit program or any other program under the Clean Air Act.

State means one of the States that is subject to the TR SO_2 Group 1 Trading Program pursuant to § 52.39(a), (b), (d), (e), and (f) of this chapter.

Submit or *serve* means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery;

(4) Provided that compliance with any ''submission'' or ''service'' deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Topping-cycle unit means a unit in which the energy input to the unit is first used to produce useful power, including electricity, where at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

Total energy input means, for a unit, total energy of all forms supplied to the unit, excluding energy produced by the unit. Each form of energy supplied shall be measured by the lower heating value of that form of energy calculated as follows:

$$LHV = HHV - 10.55(W + 9H)$$

where:

LHV = lower heating value of the form of energy in Btu/lb,

HHV = higher heating value of the form of energy in Btu/lb,

W = weight % of moisture in the form of energy, and

H = weight % of hydrogen in the form of energy.

Total energy output means, for a unit, the sum of useful power and useful thermal energy produced by the unit.

TR NO_X Annual Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart AAAAA of this part and § 52.38(a) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(a)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(a)(5) of this chapter), as a means of mitigating interstate transport of fine particulates and NO_X.

TR NO_X Ozone Season Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart BBBBB of this part and § 52.38(b) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(5) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

TR SO_2 Group 1 allowance means a limited authorization issued and allocated or auctioned by the Administrator under this subpart, or by a State

or permitting authority under a SIP revision approved by the Administrator under § 52.39(d), (e), or (f) of this chapter, to emit one ton of SO_2 during a control period of the specified calendar year for which the authorization is allocated or auctioned or of any calendar year thereafter under the TR SO_2 Group 1 Trading Program.

TR SO_2 Group 1 allowance deduction or *deduct TR SO_2 Group 1 allowances* means the permanent withdrawal of TR SO_2 Group 1 allowances by the Administrator from a compliance account (*e.g.*, in order to account for compliance with the TR SO_2 Group 1 emissions limitation) or from an assurance account (*e.g.*, in order to account for compliance with the assurance provisions under §§ 97.606 and 97.625).

TR SO_2 Group 1 allowances held or *hold TR SO_2 Group 1 allowances* means the TR SO_2 Group 1 allowances treated as included in an Allowance Management System account as of a specified point in time because at that time they:

(1) Have been recorded by the Administrator in the account or transferred into the account by a correctly submitted, but not yet recorded, TR SO_2 Group 1 allowance transfer in accordance with this subpart; and

(2) Have not been transferred out of the account by a correctly submitted, but not yet recorded, TR SO_2 Group 1 allowance transfer in accordance with this subpart.

TR SO_2 Group 1 emissions limitation means, for a TR SO_2 Group 1 source, the tonnage of SO_2 emissions authorized in a control period by the TR SO_2 Group 1 allowances available for deduction for the source under § 97.624(a) for such control period.

TR SO_2 Group 1 source means a source that includes one or more TR SO_2 Group 1 units.

TR SO_2 Group 1 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with this subpart and § 52.39(a), (b), (d) through (f), (j), and (k) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(d) or (e) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(f) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

TR SO_2 Group 1 unit means a unit that is subject to the TR SO_2 Group 1 Trading Program under § 97.604.

Unit means a stationary, fossil-fuel-fired boiler, stationary, fossil-fuel-fired combustion turbine, or other stationary, fossil-fuel-fired combustion device. A unit that undergoes a physical change or is moved to a different location or source shall continue to be treated as the same unit. A unit (the replaced unit) that is replaced by another unit (the replacement unit) at the same or a different source shall continue to be treated as the same unit, and the replacement unit shall be treated as a separate unit.

Unit operating day means, with regard to a unit, a calendar day in which the unit combusts any fuel.

Unit operating hour or hour of unit operation means, with regard to a unit, an hour in which the unit combusts any fuel.

Useful power means, with regard to a unit, electricity or mechanical energy that the unit makes available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Useful thermal energy means thermal energy that is:

(1) Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;

(2) Used in a heating application (*e.g.*, space heating or domestic hot water heating); or

(3) Used in a space cooling application (*i.e.*, in an absorption chiller).

Utility power distribution system means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.

§ 97.603 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this subpart are defined as follows:

Btu—British thermal unit

CO_2—carbon dioxide
H_2O—water
hr—hour
kW—kilowatt electrical
kWh—kilowatt hour
lb—pound
mmBtu—million Btu
MWe—megawatt electrical
MWh—megawatt hour
NO_X—nitrogen oxides
O_2—oxygen
ppm—parts per million
scfh—standard cubic feet per hour
SO_2—sulfur dioxide
yr—year

§ 97.604 Applicability.

(a) Except as provided in paragraph (b) of this section:

(1) The following units in a State (and Indian country within the borders of such State) shall be TR SO_2 Group 1 units, and any source that includes one or more such units shall be a TR SO_2 Group 1 source, subject to the requirements of this subpart: any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, on or after January 1, 2005, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

(2) If a stationary boiler or stationary combustion turbine that, under paragraph (a)(1) of this section, is not a TR SO_2 Group 1 unit begins to combust fossil fuel or to serve a generator with nameplate capacity of more than 25 MWe producing electricity for sale, the unit shall become a TR SO_2 Group 1 unit as provided in paragraph (a)(1) of this section on the first date on which it both combusts fossil fuel and serves such generator.

(b) Any unit in a State (and Indian country within the borders of such State) that otherwise is a TR SO_2 Group 1 unit under paragraph (a) of this section and that meets the requirements set forth in paragraph (b)(1)(i) or (2)(i) of this section shall not be a TR SO_2 Group 1 unit:

(1)(i) Any unit:

(A) Qualifying as a cogeneration unit throughout the later of 2005 or the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit throughout each calendar year ending after the later of 2005 or such 12-month period; and

(B) Not supplying in 2005 or any calendar year thereafter more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

(ii) If, after qualifying under paragraph (b)(1)(i) of this section as not being a TR SO_2 Group 1 unit, a unit subsequently no longer meets all the requirements of paragraph (b)(1)(i) of this section, the unit shall become a TR SO_2 Group 1 unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a cogeneration unit or January 1 after the first calendar year during which the unit no longer meets the requirements of paragraph (b)(1)(i)(B) of this section. The unit shall thereafter continue to be a TR SO_2 Group 1 unit.

(2)(i) Any unit:

(A) Qualifying as a solid waste incineration unit throughout the later of 2005 or the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a solid waste incineration unit throughout each calendar year ending after the later of 2005 or such 12-month period; and

(B) With an average annual fuel consumption of fossil fuel for the first 3 consecutive calendar years of operation starting no earlier than 2005 of less than 20 percent (on a Btu basis) and an average annual fuel consumption of fossil fuel for any 3 consecutive calendar years thereafter of less than 20 percent (on a Btu basis).

(ii) If, after qualifying under paragraph (b)(2)(i) of this section as not being a TR SO_2 Group 1 unit, a unit subsequently no longer meets all the requirements of paragraph (b)(1)(i) of this section, the unit shall become a TR SO_2 Group 1 unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a solid waste incineration unit or January 1 after the first 3 consecutive calendar years after 2005 for which the unit has an average annual fuel consumption of fossil fuel of 20 percent or more. The unit shall thereafter continue to be a TR SO_2 Group 1 unit.

(c) A certifying official of an owner or operator of any unit or other equipment may submit a petition (including any supporting documents) to the Administrator at any time for a determination concerning the applicability, under paragraphs (a) and (b) of this section or a SIP revision approved under § 52.39(e) or (f) of this chapter, of the TR SO_2 Group 1 Trading Program to the unit or other equipment.

(1) Petition content. The petition shall be in writing and include the identification of the unit or other equipment and the relevant facts about the unit or other equipment. The petition and any other documents provided to the Administrator in connection with the petition shall include the following certification statement, signed by the certifying official: ''I am authorized to make this submission on behalf of the owners and operators of the unit or other equipment for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) Response. The Administrator will issue a written response to the petition and may request supplemental information determined by the Administrator to be relevant to such petition. The Administrator's determination concerning the applicability, under paragraphs (a) and (b) of this section, of the TR SO_2 Group 1 Trading Program to the unit or other equipment shall be binding on any State or permitting authority unless the Administrator determines that the petition or other documents or information provided in connection with the petition contained significant, relevant errors or omissions.

§ 97.605 Retired unit exemption.

(a)(1) Any TR SO_2 Group 1 unit that is permanently retired shall be exempt from § 97.606(b) and (c)(1), § 97.624, and §§ 97.630 through 97.635.

(2) The exemption under paragraph (a)(1) of this section shall become effective the day on which the TR SO_2 Group 1 unit is permanently retired. Within 30 days of the unit's permanent retirement, the designated representative shall submit a statement to the Administrator. The statement shall state, in a format prescribed by the Administrator, that the unit was permanently retired on a specified date and will comply with the requirements of paragraph (b) of this section.

(b) Special provisions. (1) A unit exempt under paragraph (a) of this section shall not emit any SO_2, starting on the date that the exemption takes effect.

(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under paragraph (a) of this section shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under paragraph (a) of this section shall comply with the requirements of the TR SO_2 Group 1 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(4) A unit exempt under paragraph (a) of this section shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under this subpart, as a unit that commences commercial operation on the first date on which the unit resumes operation.

§ 97.606 Standard requirements.

(a) *Designated representative requirements.* The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with §§ 97.613 through 97.618.

(b) *Emissions monitoring, reporting, and recordkeeping requirements.* (1) The owners and operators, and the designated representative, of each TR SO_2 Group 1 source and each TR SO_2 Group 1 unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of §§ 97.630 through 97.635.

(2) The emissions data determined in accordance with §§ 97.630 through 97.635 shall be used to calculate allocations of TR SO_2 Group 1 allowances under §§ 97.611(a)(2) and (b) and 97.612 and to determine compliance with the TR SO_2 Group 1 emissions limitation and assurance provisions under paragraph (c) of this section, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with §§ 97.630 through 97.635 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

(c) *SO_2 emissions requirements.* (1) TR SO_2 Group 1 emissions limitation. (i) As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR SO_2 Group 1 source and each TR SO_2 Group 1 unit at the source shall hold, in the source's compliance account, TR SO_2 Group 1 allowances available for deduction for such control period under § 97.624(a) in an amount not less than the tons of total SO_2 emissions for such control period from all TR SO_2 Group 1 units at the source.

(ii) If total SO_2 emissions during a control period in a given year from the TR SO_2 Group 1 units at a TR SO_2 Group 1 source are in excess of the TR SO_2 Group 1 emissions limitation set forth in paragraph (c)(1)(i) of this section, then:

(A) The owners and operators of the source and each TR SO_2 Group 1 unit at the source shall hold the TR SO_2 Group 1 allowances required for deduction under § 97.624(d); and

(B) The owners and operators of the source and each TR SO_2 Group 1 unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart and the Clean Air Act.

(2) TR SO_2 Group 1 assurance provisions. (i) If total SO_2 emissions during a control period in a given year from all TR SO_2 Group 1 units at TR SO_2 Group 1 sources in a State (and Indian country within the borders of such State) exceed the State assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such SO_2 emissions during such control period exceeds the common designated representative's assurance level for the State and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR SO_2 Group 1 allowances available for deduction for such control period under § 97.625(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with § 97.625(b), of multiplying—

(A) The quotient of the amount by which the common designated representative's share of such SO_2 emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the State (and Indian country within the borders of such State) for such control period, by which each common designated representative's share of such SO_2 emissions exceeds the respective common designated representative's assurance level; and

(B) The amount by which total SO_2 emissions from all TR SO_2 Group 1 units at TR SO_2 Group 1 sources in the State (and Indian country within the borders of such State) for such control

period exceed the State assurance level.

(ii) The owners and operators shall hold the TR SO_2 Group 1 allowances required under paragraph (c)(2)(i) of this section, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.

(iii) Total SO_2 emissions from all TR SO_2 Group 1 units at TR SO_2 Group 1 sources in a State (and Indian country within the borders of such State) during a control period in a given year exceed the State assurance level if such total SO_2 emissions exceed the sum, for such control period, of the State SO_2 Group 1 trading budget under § 97.610(a) and the State's variability limit under § 97.610(b).

(iv) It shall not be a violation of this subpart or of the Clean Air Act if total SO_2 emissions from all TR SO_2 Group 1 units at TR SO_2 Group 1 sources in a State (and Indian country within the borders of such State) during a control period exceed the State assurance level or if a common designated representative's share of total SO_2 emissions from the TR SO_2 Group 1 units at TR SO_2 Group 1 sources in a State (and Indian country within the borders of such State) during a control period exceeds the common designated representative's assurance level.

(v) To the extent the owners and operators fail to hold TR SO_2 Group 1 allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) of this section,

(A) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and

(B) Each TR SO_2 Group 1 allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) of this section and each day of such control period shall constitute a separate violation of this subpart and the Clean Air Act.

(3) *Compliance periods*. (i) A TR SO_2 Group 1 unit shall be subject to the requirements under paragraph (c)(1) of this section for the control period starting on the later of January 1, 2015 or the deadline for meeting the unit's monitor certification requirements under § 97.630(b) and for each control period thereafter.

(ii) A TR SO_2 Group 1 unit shall be subject to the requirements under paragraph (c)(2) of this section for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under § 97.630(b) and for each control period thereafter.

(4) Vintage of allowances held for compliance. (i) A TR SO_2 Group 1 allowance held for compliance with the requirements under paragraph (c)(1)(i) of this section for a control period in a given year must be a TR SO_2 Group 1 allowance that was allocated for such control period or a control period in a prior year.

(ii) A TR SO_2 Group 1 allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) of this section for a control period in a given year must be a TR SO_2 Group 1 allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.

(5) Allowance Management System requirements. Each TR SO_2 Group 1 allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with this subpart.

(6) Limited authorization. A TR SO_2 Group 1 allowance is a limited authorization to emit one ton of SO_2 during the control period in one year. Such authorization is limited in its use and duration as follows:

(i) Such authorization shall only be used in accordance with the TR SO_2 Group 1 Trading Program; and

(ii) Notwithstanding any other provision of this subpart, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.

(7) Property right. A TR SO_2 Group 1 allowance does not constitute a property right.

(d) *Title V permit requirements.* (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR SO_2 Group 1 allowances in accordance with this subpart.

(2) A description of whether a unit is required to monitor and report SO_2 emissions using a continuous emission monitoring system (under subpart H of part 75 of this chapter), an excepted monitoring system (under appendices D and E to part 75 of this chapter), a low mass emissions excepted monitoring methodology (under § 75.19 of this chapter), or an alternative monitoring system (under subpart E of part 75 of this chapter) in accordance with §§ 97.630 through 97.635 may be added to, or changed in, a title V permit using minor permit modification procedures in accordance with §§ 70.7(e)(2) and 71.7(e)(1) of this chapter, provided that the requirements applicable to the described monitoring and reporting (as added or changed, respectively) are already incorporated in such permit. This paragraph explicitly provides that the addition of, or change to, a unit's description as described in the prior sentence is eligible for minor permit modification procedures in accordance with §§ 70.7(e)(2)(i)(B) and 71.7(e)(1)(i)(B) of this chapter.

(e) *Additional recordkeeping and reporting requirements.* (1) Unless otherwise provided, the owners and operators of each TR SO_2 Group 1 source and each TR SO_2 Group 1 unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.

(i) The certificate of representation under § 97.616 for the designated representative for the source and each TR SO_2 Group 1 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under § 97.616 changing the designated representative.

(ii) All emissions monitoring information, in accordance with this subpart.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR SO_2 Group 1 Trading Program.

(2) The designated representative of a TR SO_2 Group 1 source and each TR SO_2 Group 1 unit at the source shall make all submissions required under the TR SO_2 Group 1 Trading Program, except as provided in § 97.618. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in parts 70 and 71 of this chapter.

(f) *Liability.* (1) Any provision of the TR SO_2 Group 1 Trading Program that applies to a TR SO_2 Group 1 source or the designated representative of a TR SO_2 Group 1 source shall also apply to the owners and operators of such source and of the TR SO_2 Group 1 units at the source.

(2) Any provision of the TR SO_2 Group 1 Trading Program that applies to a TR SO_2 Group 1 unit or the designated representative of a TR SO_2 Group 1 unit shall also apply to the owners and operators of such unit.

(g) *Effect on other authorities.* No provision of the TR SO_2 Group 1 Trading Program or exemption under § 97.605 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR SO_2 Group 1 source or TR SO_2 Group 1 unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

[76 FR 48432, Aug. 8, 2011, as amended at 77 FR 10338, Feb. 21, 2012; 79 FR 71672, Dec. 3, 2014]

§ 97.607 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the TR SO_2 Group 1 Trading Program, to begin on the occurrence of an act or event shall

begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the TR SO_2 Group 1 Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the TR SO_2 Group 1 Trading Program, is not a business day, the time period shall be extended to the next business day.

§ 97.608 Administrative appeal procedures.

The administrative appeal procedures for decisions of the Administrator under the TR SO_2 Group 1 Trading Program are set forth in part 78 of this chapter.

§ 97.609 [Reserved]

§ 97.610 State SO_2 Group 1 trading budgets, new unit set-asides, Indian country new unit set-aside, and variability limits.

(a) The State SO_2 trading budgets, new unit set-asides, and Indian country new unit-set asides for allocations of TR SO_2 Group 1 allowances for the control periods in 2015 and thereafter are as follows:

(1) *Illinois*. (i) The SO_2 trading budget for 2015 and 2016 is 234,889 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 11,744 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 124,123 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 6,206 tons.

(vi) [Reserved]

(2) *Indiana*. (i) The SO_2 trading budget for 2015 and 2016 is 290,762 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 8,723 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 166,449 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 4,993 tons.

(3) *Iowa*. (i) The SO_2 trading budget for 2015 and 2016 is 107,085 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 2,035 tons.

(iii) The SO_2 Indian country new unit set-aside for 2015 and 2016 is 107 tons.

(iv) The SO_2 trading budget for 2017 and thereafter is 75,184 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 1,429 tons.

(vi) The SO_2 Indian country new unit set-aside for 2017 and thereafter is 75 tons.

(4) *Kentucky*. (i) The SO_2 trading budget for 2015 and 2016 is 232,662 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 13,960 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 106,284 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 6,377 tons.

(vi) [Reserved]

(5) *Maryland*. (i) The SO_2 trading budget for 2015 and 2016 is 30,120 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 602 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 28,203 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 564 tons.

(vi) [Reserved]

(6) *Michigan*. (i) The SO_2 trading budget for 2015 and 2016 is 229,303 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 4,357 tons.

(iii) The SO_2 Indian country new unit set-aside for 2015 and 2016 is 229 tons.

(iv) The SO_2 trading budget for 2017 and thereafter is 143,995 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 2,736 tons.

(vi) The SO_2 Indian country new unit set-aside for 2017 and thereafter is 144 tons.

(7) *Missouri*. (i) The SO_2 trading budget for 2015 and 2016 is 207,466 tons.

(ii) The SO_2 new unit set-aside for 2015 is 4,149 tons and for 2016 is 6,224 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 165,941 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 4,978 tons.

(vi) [Reserved]

(8) *New Jersey*. (i) The SO_2 trading budget for 2015 and 2016 is 7,670 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 153 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 5,574 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 111 tons.

(vi) [Reserved]

(9) *New York*. (i) The SO_2 trading budget for 2015 and 2016 is 36,296 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 690 tons.

(iii) The SO_2 Indian country new unit set-aside for 2015 and 2016 is 36 tons.

(iv) The SO_2 trading budget for 2017 and thereafter is 27,556 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 523 tons.

(vi) The SO_2 Indian country new unit set-aside for 2017 and thereafter is 28 tons.

(10) *North Carolina*. (i) The SO_2 trading budget for 2015 and 2016 is 136,881 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 10,813 tons.

(iii) The SO_2 Indian country new unit set-aside for 2015 and 2016 is 137 tons.

(iv) The SO_2 trading budget for 2017 and thereafter is 57,620 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 4,552 tons.

(vi) The SO_2 Indian country new unit set-aside for 2017 and thereafter is 58 tons.

(11) *Ohio*. (i) The SO_2 trading budget for 2015 and 2016 is 315,393 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 6,308 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 142,240 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 2,845 tons.

(12) *Pennsylvania*. (i) The SO_2 trading budget for 2015 and 2016 is 278,651 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 5,573 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 112,021 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 2,240 tons.

(vi) [Reserved]

(13) *Tennessee*. (i) The SO_2 trading budget for 2015 and 2016 is 148,150 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 2,963 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 58,833 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 1,177 tons.

(vi) [Reserved]

(14) *Virginia*. (i) The SO_2 trading budget for 2015 and 2016 is 70,820 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 2,833 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 35,057 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 1,402 tons.

(vi) [Reserved]

(15) *West Virginia*. (i) The SO_2 trading budget for 2015 and 2016 is 146,174 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 10,232 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 75,668 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 5,297 tons.

(vi) [Reserved]

(16) *Wisconsin*. (i) The SO_2 trading budget for 2015 and 2016 is 79,480 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 3,099 tons.

(iii) The SO_2 Indian country new unit set-aside for 2015 and 2016 is 80 tons.

(iv) The SO_2 trading budget for 2017 and thereafter is 47,883 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 1,867 tons.

(vi) The SO_2 Indian country new unit set-aside for 2017 and thereafter is 48 tons.

(b) The States' variability limits for the State SO_2 Group 1 trading budgets for the control periods in 2017 and thereafter are as follows:

(1) The SO_2 variability limit for Illinois is 22,342 tons.

(2) The SO_2 variability limit for Indiana is 29,961 tons.

(3) The SO_2 variability limit for Iowa is 13,533 tons.

(4) The SO_2 variability limit for Kentucky is 19,131 tons.

(5) The SO_2 variability limit for Maryland is 5,077 tons.

(6) The SO_2 variability limit for Michigan is 25,919 tons.

(7) The SO_2 variability limit for Missouri is 29,869 tons.

(8) The SO_2 variability limit for New Jersey is 1,003 tons.

(9) The SO_2 variability limit for New York is 4,960 tons.

(10) The SO_2 variability limit for North Carolina is 10,372 tons.

(11) The SO_2 variability limit for Ohio is 25,603 tons.

(12) The SO_2 variability limit for Pennsylvania is 20,164 tons.

(13) The SO_2 variability limit for Tennessee is 10,590 tons.

(14) The SO_2 variability limit for Virginia is 6,310 tons.

(15) The SO_2 variability limit for West Virginia is 13,620 tons.

(16) The SO_2 variability limit for Wisconsin is 8,619 tons.

(c) Each SO_2 trading budget in this section includes any tons in a new unit set aside or Indian country new unit set aside, but does not include any tons in a variability limit.

[77 FR 10339, Feb. 21, 2012, as amended at 77 FR 10348, Feb. 21, 2012; 77 FR 34846, June 12, 2012; 79 FR 71672, Dec. 3, 2014]

§ 97.611 Timing requirements for TR SO_2 Group 1 allowance allocations.

(a) *Existing units.* (1) TR SO_2 Group 1 allowances are allocated, for the control periods in 2015 and each year thereafter, as provided in a notice of data availability issued by the Administrator. Providing an allocation to a unit in such notice does not constitute a determination that the unit is a TR SO_2 Group 1 unit, and not providing an allocation to a unit in such notice does not constitute a determination that the unit is not a TR SO_2 Group 1 unit.

(2) Notwithstanding paragraph (a)(1) of this section, if a unit provided an allocation in the notice of data availability issued under paragraph (a)(1) of this section does not operate, starting after 2014, during the control period in two consecutive years, such unit will not be allocated the TR SO_2 Group 1 allowances provided in such notice for the unit for the control periods in the fifth year after the first such year and in each year after that fifth year. All TR SO_2 Group 1 allowances that would otherwise have been allocated to such unit will be allocated to the new unit set-aside for the State where such unit is located and for the respective years involved. If such unit resumes operation, the Administrator will allocate TR SO_2 Group 1 allowances to the unit in accordance with paragraph (b) of this section.

(b) *New units.* (1) New unit set-asides. (i) By June 1, 2015 and June 1 of each year thereafter, the Administrator will calculate the TR SO_2 Group 1 allowance allocation to each TR SO_2 Group 1 unit in a State, in accordance with § 97.612(a)(2) through (7) and (12), for the control period in the year of the applicable calculation deadline under this paragraph and will promulgate a notice of data availability of the results of the calculations.

(ii) For each notice of data availability required in paragraph (b)(1)(i) of this section, the Administrator will provide an opportunity for submission of objections to the calculations referenced in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(1)(i) of this section and shall be limited to addressing whether the calculations (including the identification of the TR SO_2 Group 1 units) are in accordance with § 97.612(a)(2) through (7) and (12) and §§ 97.606(b)(2) and 97.630 through 97.635.

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(1)(ii)(A) of this section. By August 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(1)(i) of this section, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary with regard to allocations under § 97.612(a)(2) through (7) and (12) and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(1)(ii)(A) of this section.

(iii) If the new unit set-aside for such control period contains any TR SO_2 Group 1 allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(1)(ii) of this section, the Administrator will promulgate, by December 15 immediately after such notice, a notice of data availability that identifies any TR SO_2 Group 1 units that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of year of such control period.

(iv) For each notice of data availability required in paragraph (b)(1)(iii)

of this section, the Administrator will provide an opportunity for submission of objections to the identification of TR SO_2 annual units in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(1)(iii) of this section and shall be limited to addressing whether the identification of TR SO_2 annual units in such notice is in accordance with paragraph (b)(1)(iii) of this section.

(B) The Administrator will adjust the identification of TR SO_2 Group 1 units in each notice of data availability required in paragraph (b)(1)(iii) of this section to the extent necessary to ensure that it is in accordance with paragraph (b)(1)(iii) of this section and will calculate the TR SO_2 Group 1 allowance allocation to each TR SO_2 Group 1 unit in accordance with § 97.612(a)(9), (10), and (12) and §§ 97.606(b)(2) and 97.630 through 97.635. By February 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(1)(iii) of this section, the Administrator will promulgate a notice of data availability of any adjustments of the identification of TR SO_2 Group 1 units that the Administrator determines to be necessary, the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(1)(iv)(A) of this section, and the results of such calculations.

(v) To the extent any TR SO_2 Group 1 allowances are added to the new unit set-aside after promulgation of each notice of data availability required in paragraph (b)(1)(iv) of this section, the Administrator will promulgate additional notices of data availability, as deemed appropriate, of the allocation of such TR SO_2 Group 1 allowances in accordance with § 97.612(a)(10).

(2) Indian country new unit set-asides. (i) By June 1, 2015 and June 1 of each year thereafter, the Administrator will calculate the TR SO_2 Group 1 allowance allocation to each TR SO_2 Group 1 unit in Indian country within the borders of a State, in accordance with § 97.612(b)(2) through (7) and (12), for the control period in the year of the applicable calculation deadline under this paragraph and will promulgate a notice of data availability of the results of the calculations.

(ii) For each notice of data availability required in paragraph (b)(2)(i) of this section, the Administrator will provide an opportunity for submission of objections to the calculations referenced in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(2)(i) of this section and shall be limited to addressing whether the calculations (including the identification of the TR SO_2 Group 1 units) are in accordance with § 97.612(b)(2) through (7) and (12) and §§ 97.606(b)(2) and 97.630 through 97.635.

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(2)(ii)(A) of this section. By August 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(i) of this section, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary with regard to allocations under § 97.612(b)(2) through (7) and (12) and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(ii)(A) of this section.

(iii) If the Indian country new unit set-aside for such control period contains any TR SO_2 Group 1 allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(2)(ii) of this section, the Administrator will promulgate, by December 15 immediately after such notice, a notice of data availability that identifies any TR SO_2 Group 1 units that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of year of such control period.

(iv) For each notice of data availability required in paragraph (b)(2)(iii) of this section, the Administrator will provide an opportunity for submission of objections to the identification of TR SO_2 annual units in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph

(b)(2)(iii) of this section and shall be limited to addressing whether the identification of TR SO_2 annual units in such notice is in accordance with paragraph (b)(2)(iii) of this section.

(B) The Administrator will adjust the identification of TR SO_2 Group 1 units in each notice of data availability required in paragraph (b)(2)(iii) of this section to the extent necessary to ensure that it is in accordance with paragraph (b)(2)(iii) of this section and will calculate the TR SO_2 Group 1 allowance allocation to each TR SO_2 Group 1 unit in accordance with § 97.612(b)(9), (10), and (12) and §§ 97.606(b)(2) and 97.630 through 97.635. By February 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii) of this section, the Administrator will promulgate a notice of data availability of any adjustments of the identification of TR SO_2 Group 1 units that the Administrator determines to be necessary, the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(iv)(A) of this section, and the results of such calculations.

(v) To the extent any TR SO_2 Group 1 allowances are added to the Indian country new unit set-aside after promulgation of each notice of data availability required in paragraph (b)(2)(iv) of this section, the Administrator will promulgate additional notices of data availability, as deemed appropriate, of the allocation of such TR NO_X Annual allowances in accordance with § 97.612(b)(10).

(c) *Units incorrectly allocated TR SO_2* Group 1 allowances. (1) For each control period in 2015 and thereafter, if the Administrator determines that TR SO_2 Group 1 allowances were allocated under paragraph (a) of this section, or under a provision of a SIP revision approved under § 52.39(d), (e), or (f) of this chapter, where such control period and the recipient are covered by the provisions of paragraph (c)(1)(i) of this section or were allocated under § 97.612(a)(2) through (7), (9), and (12) and (b)(2) through (7), (9), and (12), or under a provision of a SIP revision approved under § 52.39(e) or (f) of this chapter, where such control period and the recipient are covered by the provisions of paragraph (c)(1)(ii) of this section, then the Administrator will notify the designated representative of the recipient and will act in accordance with the procedures set forth in paragraphs (c)(2) through (5) of this section:

(i)(A) The recipient is not actually a TR SO_2 Group 1 unit under § 97.604 as of January 1, 2015 and is allocated TR SO_2 Group 1 allowances for such control period or, in the case of an allocation under a provision of a SIP revision approved under § 52.39(d), (e), or (f) of this chapter, the recipient is not actually a TR SO_2 Group 1 unit as of January 1, 2015 and is allocated TR SO_2 Group 1 allowances for such control period that the SIP revision provides should be allocated only to recipients that are TR SO_2 Group 1 units as of January 1, 2015; or

(B) The recipient is not located as of January 1 of the control period in the State from whose SO_2 Group 1 trading budget the TR SO_2 Group 1 allowances allocated under paragraph (a) of this section, or under a provision of a SIP revision approved under § 52.39(d), (e), or (f) of this chapter, were allocated for such control period.

(ii) The recipient is not actually a TR SO_2 Group 1 unit under § 97.604 as of January 1 of such control period and is allocated TR SO_2 Group 1 allowances for such control period or, in the case of an allocation under a provision of a SIP revision approved under § 52.39(d), (e), or (f) of this chapter, the recipient is not actually a TR SO_2 Group 1 unit as of January 1 of such control period and is allocated TR SO_2 Group 1 allowances for such control period that the SIP revision provides should be allocated only to recipients that are TR SO_2 Group 1 units as of January 1 of such control period.

(2) Except as provided in paragraph (c)(3) or (4) of this section, the Administrator will not record such TR SO_2 Group 1 allowances under § 97.621.

(3) If the Administrator already recorded such TR SO_2 Group 1 allowances under § 97.621 and if the Administrator makes the determination under paragraph (c)(1) of this section before making deductions for the source that includes such recipient under § 97.624(b)

for such control period, then the Administrator will deduct from the account in which such TR SO_2 Group 1 allowances were recorded an amount of TR SO_2 Group 1 allowances allocated for the same or a prior control period equal to the amount of such already recorded TR SO_2 Group 1 allowances. The authorized account representative shall ensure that there are sufficient TR SO_2 Group 1 allowances in such account for completion of the deduction.

(4) If the Administrator already recorded such TR SO_2 Group 1 allowances under § 97.621 and if the Administrator makes the determination under paragraph (c)(1) of this section after making deductions for the source that includes such recipient under § 97.624(b) for such control period, then the Administrator will not make any deduction to take account of such already recorded TR SO_2 Group 1 allowances.

(5)(i) With regard to the TR SO_2 Group 1 allowances that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(i) of this section, the Administrator will:

(A) Transfer such TR SO_2 Group 1 allowances to the new unit set-aside for such control period for the State from whose SO_2 Group 1 trading budget the TR SO_2 Group 1 allowances were allocated; or

(B) If the State has a SIP revision approved under § 52.39(e) or (f) covering such control period, include such TR SO_2 Group 1 allowances in the portion of the State SO_2 Group 1 trading budget that may be allocated for such control period in accordance with such SIP revision.

(ii) With regard to the TR SO_2 Group 1 allowances that were not allocated from the Indian country new unit set-aside for such control period and that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(ii) of this paragraph, the Administrator will:

(A) Transfer such TR SO_2 Group 1 allowances to the new unit set-aside for such control period; or

(B) If the State has a SIP revision approved under § 52.39(e) or (f) covering such control period, include such TR SO_2 Group 1 allowances in the portion of the State SO_2 Group 1 trading budget that may be allocated for such control period in accordance with such SIP revision.

(iii) With regard to the TR SO_2 Group 1 allowances that were allocated from the Indian country new unit set-aside for such control period and that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(ii) of this paragraph, the Administrator will transfer such TR SO_2 Group 1 allowances to the Indian country new unit set-aside for such control period.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.612 TR SO_2 Group 1 allowance allocations to new units.

(a) For each control period in 2015 and thereafter and for the TR SO_2 Group 1 units in each State, the Administrator will allocate TR SO_2 Group 1 allowances to the TR SO_2 Group 1 units as follows:

(1) The TR SO_2 Group 1 allowances will be allocated to the following TR SO_2 Group 1 units, except as provided in paragraph (a)(10) of this section:

(i) TR SO_2 Group 1 units that are not allocated an amount of TR SO_2 Group 1 allowances in the notice of data availability issued under § 97.611(a)(1);

(ii) TR SO_2 Group 1 units whose allocation of an amount of TR SO_2 Group 1 allowances for such control period in the notice of data availability issued under § 97.611(a)(1) is covered by § 97.611(c)(2) or (3);

(iii) TR SO_2 Group 1 units that are allocated an amount of TR SO_2 Group 1 allowances for such control period in the notice of data availability issued under § 97.611(a)(1), which allocation is terminated for such control period pursuant to § 97.611(a)(2), and that operate during the control period immediately preceding such control period; or

(iv) For purposes of paragraph (a)(9) of this section, TR SO_2 Group 1 units under § 97.611(c)(1)(ii) whose allocation of an amount of TR SO_2 Group 1 allowances for such control period in the notice of data availability issued under

§ 97.611(b)(1)(ii)(B) is covered by § 97.611(c)(2) or (3).

(2) The Administrator will establish a separate new unit set-aside for the State for each such control period. Each such new unit set-aside will be allocated TR SO_2 Group 1 allowances in an amount equal to the applicable amount of tons of SO_2 emissions as set forth in § 97.610(a) and will be allocated additional TR SO_2 Group 1 allowances (if any) in accordance with §§ 97.611(a)(2) and (c)(5) and paragraph (b)(10) of this section.

(3) The Administrator will determine, for each TR SO_2 Group 1 unit described in paragraph (a)(1) of this section, an allocation of TR SO_2 Group 1 allowances for the later of the following control periods and for each subsequent control period:

(i) The control period in 2015;

(ii) The first control period after the control period in which the TR SO_2 Group 1 unit commences commercial operation;

(iii) For a unit described in paragraph (a)(1)(ii) of this section, the first control period in which the TR SO_2 Group 1 unit operates in the State after operating in another jurisdiction and for which the unit is not already allocated one or more TR SO_2 Group 1 allowances; and

(iv) For a unit described in paragraph (a)(1)(iii) of this section, the first control period after the control period in which the unit resumes operation.

(4)(i) The allocation to each TR SO_2 annual unit described in paragraph (a)(1)(i) through (iii) of this section and for each control period described in paragraph (a)(3) of this section will be an amount equal to the unit's total tons of SO_2 emissions during the immediately preceding control period.

(ii) The Administrator will adjust the allocation amount in paragraph (a)(4)(i) in accordance with paragraphs (a)(5) through (7) and (12) of this section.

(5) The Administrator will calculate the sum of the TR SO_2 Group 1 allowances determined for all such TR SO_2 Group 1 units under paragraph (a)(4)(i) of this section in the State for such control period.

(6) If the amount of TR SO_2 Group 1 allowances in the new unit set-aside for the State for such control period is greater than or equal to the sum under paragraph (a)(5) of this section, then the Administrator will allocate the amount of TR SO_2 Group 1 allowances determined for each such TR SO_2 Group 1 unit under paragraph (a)(4)(i) of this section.

(7) If the amount of TR SO_2 Group 1 allowances in the new unit set-aside for the State for such control period is less than the sum under paragraph (a)(5) of this section, then the Administrator will allocate to each such TR SO_2 Group 1 unit the amount of the TR SO_2 Group 1 allowances determined under paragraph (a)(4)(i) of this section for the unit, multiplied by the amount of TR SO_2 Group 1 allowances in the new unit set-aside for such control period, divided by the sum under paragraph (a)(5) of this section, and rounded to the nearest allowance.

(8) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.611(b)(1)(i) and (ii), of the amount of TR SO_2 Group 1 allowances allocated under paragraphs (a)(2) through (7) and (12) of this section for such control period to each TR SO_2 Group 1 unit eligible for such allocation.

(9) If, after completion of the procedures under paragraphs (a)(5) through (8) of this section for such control period, any unallocated TR SO_2 Group 1 allowances remain in the new unit set-aside for the State for such control period, the Administrator will allocate such TR SO_2 Group 1 allowances as follows—

(i) The Administrator will determine, for each unit described in paragraph (a)(1) of this section that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of TR SO_2 Group 1 allowances referenced in the notice of data availability required under § 97.611(b)(1)(ii) for the unit for such control period;

(ii) The Administrator will determine the sum of the positive differences determined under paragraph (a)(9)(i) of this section;

(iii) If the amount of unallocated TR SO_2 Group 1 allowances remaining in the new unit set-aside for the State for such control period is greater than or equal to the sum determined under paragraph (a)(9)(ii) of this section, then the Administrator will allocate the amount of TR SO_2 Group 1 allowances determined for each such TR SO_2 Group 1 unit under paragraph (a)(9)(i) of this section; and

(iv) If the amount of unallocated TR SO_2 Group 1 allowances remaining in the new unit set-aside for the State for such control period is less than the sum under paragraph (a)(9)(ii) of this section, then the Administrator will allocate to each such TR SO_2 Group 1 unit the amount of the TR SO_2 Group 1 allowances determined under paragraph (a)(9)(i) of this section for the unit, multiplied by the amount of unallocated TR SO_2 Group 1 allowances remaining in the new unit set-aside for such control period, divided by the sum under paragraph (a)(9)(ii) of this section, and rounded to the nearest allowance.

(10) If, after completion of the procedures under paragraphs (a)(9) and (12) of this section for such control period, any unallocated TR SO_2 Group 1 allowances remain in the new unit set-aside for the State for such control period, the Administrator will allocate to each TR SO_2 Group 1 unit that is in the State, is allocated an amount of TR SO_2 Group 1 allowances in the notice of data availability issued under § 97.611(a)(1), and continues to be allocated TR SO_2 Group 1 allowances for such control period in accordance with § 97.611(a)(2), an amount of TR SO_2 Group 1 allowances equal to the following: The total amount of such remaining unallocated TR SO_2 Group 1 allowances in such new unit set-aside, multiplied by the unit's allocation under § 97.611(a) for such control period, divided by the remainder of the amount of tons in the applicable State SO_2 Group 1 trading budget minus the sum of the amounts of tons in such new unit set-aside and the Indian country new unit set-aside for the State for such control period, and rounded to the nearest allowance.

(11) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.611(b)(1)(iii), (iv), and (v), of the amount of TR SO_2 Group 1 allowances allocated under paragraphs (a)(9), (10), and (12) of this section for such control period to each TR SO_2 Group 1 unit eligible for such allocation.

(12)(i) Notwithstanding the requirements of paragraphs (a)(2) through (11) of this section, if the calculations of allocations of a new unit set-aside for a control period in a given year under paragraph (a)(7) of this section, paragraphs (a)(6) and (9)(iv) of this section, or paragraphs (a)(6), (9)(iii), and (10) of this section would otherwise result in total allocations of such new unit set-aside exceeding the total amount of such new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (a)(7), (9)(iv), or (10) of this section, as applicable, as follows. The Administrator will list the TR SO_2 Group 1 units in descending order based on the amount of such units' allocations under paragraph (a)(7), (9)(iv), or (10) of this section, as applicable, and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will reduce each unit's allocation under paragraph (a)(7), (9)(iv), or (10) of this section, as applicable, by one TR SO_2 Group 1 allowance (but not below zero) in the order in which the units are listed and will repeat this reduction process as necessary, until the total allocations of such new unit set-aside equal the total amount of such new unit set-aside.

(ii) Notwithstanding the requirements of paragraphs (a)(10) and (11) of this section, if the calculations of allocations of a new unit set-aside for a control period in a given year under paragraphs (a)(6), (9)(iii), and (10) of this section would otherwise result in a total allocations of such new unit set-aside less than the total amount of such new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (a)(10) of this section, as follows. The

Administrator will list the TR SO_2 Group 1 units in descending order based on the amount of such units' allocations under paragraph (a)(10) of this section and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will increase each unit's allocation under paragraph (a)(10) of this section by one TR SO_2 Group 1 allowance in the order in which the units are listed and will repeat this increase process as necessary, until the total allocations of such new unit set-aside equal the total amount of such new unit set-aside.

(b) For each control period in 2015 and thereafter and for the TR SO_2 Group 1 units located in Indian country within the borders of each State, the Administrator will allocate TR SO_2 Group 1 allowances to the TR SO_2 Group 1 units as follows:

(1) The TR SO_2 Group 1 allowances will be allocated to the following TR SO_2 Group 1 units, except as provided in paragraph (b)(10) of this section:

(i) TR SO_2 Group 1 units that are not allocated an amount of TR SO_2 Group 1 allowances in the notice of data availability issued under § 97.611(a)(1); or

(ii) For purposes of paragraph (b)(9) of this section, TR SO_2 Group 1 units under § 97.611(c)(1)(ii) whose allocation of an amount of TR SO_2 Group 1 allowances for such control period in the notice of data availability issued under § 97.611(b)(2)(ii)(B) is covered by § 97.611(c)(2) or (3).

(2) The Administrator will establish a separate Indian country new unit set-aside for the State for each such control period. Each such Indian country new unit set-aside will be allocated TR SO_2 Group 1 allowances in an amount equal to the applicable amount of tons of SO_2 emissions as set forth in § 97.610(a) and will be allocated additional TR SO_2 Group 1 allowances (if any) in accordance with § 97.611(c)(5).

(3) The Administrator will determine, for each TR SO_2 Group 1 unit described in paragraph (b)(1) of this section, an allocation of TR SO_2 Group 1 allowances for the later of the following control periods and for each subsequent control period:

(i) The control period in 2015; and

(ii) The first control period after the control period in which the TR SO_2 Group 1 unit commences commercial operation.

(4)(i) The allocation to each TR SO_2 annual unit described in paragraph (b)(1)(i) of this section and for each control period described in paragraph (b)(3) of this section will be an amount equal to the unit's total tons of SO_2 emissions during the immediately preceding control period.

(ii) The Administrator will adjust the allocation amount in paragraph (b)(4)(i) in accordance with paragraphs (b)(5) through (7) and (12) of this section.

(5) The Administrator will calculate the sum of the TR SO_2 Group 1 allowances determined for all such TR SO_2 Group 1 units under paragraph (b)(4)(i) of this section in Indian country within the borders of the State for such control period.

(6) If the amount of TR SO_2 Group 1 allowances in the Indian country new unit set-aside for the State for such control period is greater than or equal to the sum under paragraph (b)(5) of this section, then the Administrator will allocate the amount of TR SO_2 Group 1 allowances determined for each such TR SO_2 Group 1 unit under paragraph (b)(4)(i) of this section.

(7) If the amount of TR SO_2 Group 1 allowances in the Indian country new unit set-aside for the State for such control period is less than the sum under paragraph (b)(5) of this section, then the Administrator will allocate to each such TR SO_2 Group 1 unit the amount of the TR SO_2 Group 1 allowances determined under paragraph (b)(4)(i) of this section for the unit, multiplied by the amount of TR SO_2 Group 1 allowances in the Indian country new unit set-aside for such control period, divided by the sum under paragraph (b)(5) of this section, and rounded to the nearest allowance.

(8) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.611(b)(2)(i) and (ii), of the amount of TR SO_2 Group 1 allowances allocated under paragraphs (b)(2) through (7) and (12) of this section for such control period to each TR SO_2

Group 1 unit eligible for such allocation.

(9) If, after completion of the procedures under paragraphs (b)(5) through (8) of this section for such control period, any unallocated TR SO_2 Group 1 allowances remain in the Indian country new unit set-aside for the State for such control period, the Administrator will allocate such TR SO_2 Group 1 allowances as follows—

(i) The Administrator will determine, for each unit described in paragraph (b)(1) of this section that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of TR SO_2 Group 1 allowances referenced in the notice of data availability required under § 97.611(b)(2)(ii) for the unit for such control period;

(ii) The Administrator will determine the sum of the positive differences determined under paragraph (b)(9)(i) of this section;

(iii) If the amount of unallocated TR SO_2 Group 1 allowances remaining in the Indian country new unit set-aside for the State for such control period is greater than or equal to the sum determined under paragraph (b)(9)(ii) of this section, then the Administrator will allocate the amount of TR SO_2 Group 1 allowances determined for each such TR SO_2 Group 1 unit under paragraph (b)(9)(i) of this section; and

(iv) If the amount of unallocated TR SO_2 Group 1 allowances remaining in the Indian country new unit set-aside for the State for such control period is less than the sum under paragraph (b)(9)(ii) of this section, then the Administrator will allocate to each such TR SO_2 Group 1 unit the amount of the TR SO_2 Group 1 allowances determined under paragraph (b)(9)(i) of this section for the unit, multiplied by the amount of unallocated TR SO_2 Group 1 allowances remaining in the Indian country new unit set-aside for such control period, divided by the sum under paragraph (b)(9)(ii) of this section, and rounded to the nearest allowance.

(10) If, after completion of the procedures under paragraphs (b)(9) and (12) of this section for such control period, any unallocated TR SO_2 Group 1 allowances remain in the Indian country new unit set-aside for the State for such control period, the Administrator will:

(i) Transfer such unallocated TR SO_2 Group 1 allowances to the new unit set-aside for the State for such control period; or

(ii) If the State has a SIP revision approved under § 52.39(d), (e), or (f) of this chapter covering such control period, include such unallocated TR SO_2 Group 1 allowances in the portion of the State SO_2 Group 1 trading budget that may be allocated for such control period in accordance with such SIP revision.

(11) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.611(b)(2)(iii), (iv), and (v), of the amount of TR SO_2 Group 1 allowances allocated under paragraphs (b)(9), (10), and (12) for such control period to each TR SO_2 Group 1 unit eligible for such allocation.

(12)(i) Notwithstanding the requirements of paragraphs (b)(2) through (11) of this section, if the calculations of allocations of an Indian country new unit set-aside for a control period in a given year under paragraph (b)(7) of this section, paragraphs (b)(6) and (9)(iv) of this section, or paragraphs (b)(6), (9)(iii), and (10) of this section would otherwise result in total allocations of such Indian country new unit set-aside exceeding the total amount of such Indian country new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (b)(7), (9)(iv), or (10) of this section, as applicable, as follows. The Administrator will list the TR SO_2 Group 1 units in descending order based on the amount of such units' allocations under paragraph (b)(7), (9)(iv), or (10) of this section, as applicable, and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will reduce each unit's allocation under paragraph (b)(7), (9)(iv), or (10) of this section, as applicable, by one TR SO_2 Group 1 allowance (but not below zero) in the order in which the

units are listed and will repeat this reduction process as necessary, until the total allocations of such Indian country new unit set-aside equal the total amount of such Indian country new unit set-aside.

(ii) Notwithstanding the requirements of paragraphs (b)(10) and (11) of this section, if the calculations of allocations of an Indian country new unit set-aside for a control period in a given year under paragraphs (b)(6), (9)(iii), and (10) of this section would otherwise result in a total allocations of such Indian country new unit set-aside less than the total amount of such Indian country new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (b)(10) of this section, as follows. The Administrator will list the TR SO_2 Group 1 units in descending order based on the amount of such units' allocations under paragraph (b)(10) of this section and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will increase each unit's allocation under paragraph (b)(10) of this section by one TR SO_2 Group 1 allowance in the order in which the units are listed and will repeat this increase process as necessary, until the total allocations of such Indian country new unit set-aside equal the total amount of such Indian country new unit set-aside.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.613 Authorization of designated representative and alternate designated representative.

(a) Except as provided under § 97.615, each TR SO_2 Group 1 source, including all TR SO_2 Group 1 units at the source, shall have one and only one designated representative, with regard to all matters under the TR SO_2 Group 1 Trading Program.

(1) The designated representative shall be selected by an agreement binding on the owners and operators of the source and all TR SO_2 Group 1 units at the source and shall act in accordance with the certification statement in § 97.616(a)(4)(iii).

(2) Upon and after receipt by the Administrator of a complete certificate of representation under § 97.616:

(i) The designated representative shall be authorized and shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the source and each TR SO_2 Group 1 unit at the source in all matters pertaining to the TR SO_2 Group 1 Trading Program, notwithstanding any agreement between the designated representative and such owners and operators; and

(ii) The owners and operators of the source and each TR SO_2 Group 1 unit at the source shall be bound by any decision or order issued to the designated representative by the Administrator regarding the source or any such unit.

(b) Except as provided under § 97.615, each TR SO_2 Group 1 source may have one and only one alternate designated representative, who may act on behalf of the designated representative. The agreement by which the alternate designated representative is selected shall include a procedure for authorizing the alternate designated representative to act in lieu of the designated representative.

(1) The alternate designated representative shall be selected by an agreement binding on the owners and operators of the source and all TR SO_2 Group 1 units at the source and shall act in accordance with the certification statement in § 97.616(a)(4)(iii).

(2) Upon and after receipt by the Administrator of a complete certificate of representation under § 97.616,

(i) The alternate designated representative shall be authorized;

(ii) Any representation, action, inaction, or submission by the alternate designated representative shall be deemed to be a representation, action, inaction, or submission by the designated representative; and

(iii) The owners and operators of the source and each TR SO_2 Group 1 unit at the source shall be bound by any decision or order issued to the alternate designated representative by the Administrator regarding the source or any such unit.

(c) Except in this section, § 97.602, and §§ 97.614 through 97.618, whenever the

term ''designated representative'' (as distinguished from the term ''common designated representative'') is used in this subpart, the term shall be construed to include the designated representative or any alternate designated representative.

§ 97.614 Responsibilities of designated representative and alternate designated representative.

(a) Except as provided under § 97.618 concerning delegation of authority to make submissions, each submission under the TR SO_2 Group 1 Trading Program shall be made, signed, and certified by the designated representative or alternate designated representative for each TR SO_2 Group 1 source and TR SO_2 Group 1 unit for which the submission is made. Each such submission shall include the following certification statement by the designated representative or alternate designated representative: ''I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(b) The Administrator will accept or act on a submission made for a TR SO_2 Group 1 source or a TR SO_2 Group 1 unit only if the submission has been made, signed, and certified in accordance with paragraph (a) of this section and § 97.618.

§ 97.615 Changing designated representative and alternate designated representative; changes in owners and operators; changes in units at the source.

(a) *Changing designated representative.* The designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.616. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new designated representative and the owners and operators of the TR SO_2 Group 1 source and the TR SO_2 Group 1 units at the source.

(b) *Changing alternate designated representative.* The alternate designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.616. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new alternate designated representative, the designated representative, and the owners and operators of the TR SO_2 Group 1 source and the TR SO_2 Group 1 units at the source.

(c) *Changes in owners and operators.* (1) In the event an owner or operator of a TR SO_2 Group 1 source or a TR SO_2 Group 1 unit at the source is not included in the list of owners and operators in the certificate of representation under § 97.616, such owner or operator shall be deemed to be subject to and bound by the certificate of representation, the representations, actions, inactions, and submissions of the designated representative and any alternate designated representative of the source or unit, and the decisions and orders of the Administrator, as if the owner or operator were included in such list.

(2) Within 30 days after any change in the owners and operators of a TR SO_2 Group 1 source or a TR SO_2 Group 1 unit at the source, including the addition or removal of an owner or operator, the designated representative or any alternate designated representative shall submit a revision to the certificate of representation under § 97.616 amending the list of owners and operators to reflect the change.

(d) *Changes in units at the source.* Within 30 days of any change in which units are located at a TR SO_2 Group 1 source (including the addition or removal of a unit), the designated representative or any alternate designated representative shall submit a certificate of representation under § 97.616 amending the list of units to reflect the change.

(1) If the change is the addition of a unit that operated (other than for purposes of testing by the manufacturer before initial installation) before being located at the source, then the certificate of representation shall identify, in a format prescribed by the Administrator, the entity from whom the unit was purchased or otherwise obtained (including name, address, telephone number, and facsimile number (if any)), the date on which the unit was purchased or otherwise obtained, and the date on which the unit became located at the source.

(2) If the change is the removal of a unit, then the certificate of representation shall identify, in a format prescribed by the Administrator, the entity to which the unit was sold or that otherwise obtained the unit (including name, address, telephone number, and facsimile number (if any)), the date on which the unit was sold or otherwise obtained, and the date on which the unit became no longer located at the source.

§ 97.616 Certificate of representation.

(a) A complete certificate of representation for a designated representative or an alternate designated representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the TR SO_2 Group 1 source, and each TR SO_2 Group 1 unit at the source, for which the certificate of representation is submitted, including source name, source category and NAICS code (or, in the absence of a NAICS code, an equivalent code), State, plant code, county, latitude and longitude, unit identification number and type, identification number and nameplate capacity (in MWe, rounded to the nearest tenth) of each generator served by each such unit, actual or projected date of commencement of commercial operation, and a statement of whether such source is located in Indian Country. If a projected date of commencement of commercial operation is provided, the actual date of commencement of commercial operation shall be provided when such information becomes available.

(2) The name, address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the designated representative and any alternate designated representative.

(3) A list of the owners and operators of the TR SO_2 Group 1 source and of each TR SO_2 Group 1 unit at the source.

(4) The following certification statements by the designated representative and any alternate designated representative—

(i) ''I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the source and each TR SO_2 Group 1 unit at the source.''

(ii) ''I certify that I have all the necessary authority to carry out my duties and responsibilities under the TR SO_2 Group 1 Trading Program on behalf of the owners and operators of the source and of each TR SO_2 Group 1 unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the Administrator regarding the source or unit.''

(iii) ''Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, a TR SO_2 Group 1 unit, or where a utility or industrial customer purchases power from a TR SO_2 Group 1 unit under a life-of-the-unit, firm power contractual arrangement, I certify that: I have given a written notice of my selection as the 'designated representative' or 'alternate designated representative', as applicable, and of the agreement by which I was selected to each owner and operator of the source and of each TR SO_2 Group 1 unit at the source; and TR SO_2 Group 1 allowances and proceeds of transactions involving TR SO_2 Group 1 allowances will be deemed to be held or

distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, except that, if such multiple holders have expressly provided for a different distribution of TR SO_2 Group 1 allowances by contract, TR SO_2 Group 1 allowances and proceeds of transactions involving TR SO_2 Group 1 allowances will be deemed to be held or distributed in accordance with the contract.''

(5) The signature of the designated representative and any alternate designated representative and the dates signed.

(b) Unless otherwise required by the Administrator, documents of agreement referred to in the certificate of representation shall not be submitted to the Administrator. The Administrator shall not be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

§ 97.617 Objections concerning designated representative and alternate designated representative.

(a) Once a complete certificate of representation under § 97.616 has been submitted and received, the Administrator will rely on the certificate of representation unless and until a superseding complete certificate of representation under § 97.616 is received by the Administrator.

(b) Except as provided in paragraph (a) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission, of a designated representative or alternate designated representative shall affect any representation, action, inaction, or submission of the designated representative or alternate designated representative or the finality of any decision or order by the Administrator under the TR SO_2 Group 1 Trading Program.

(c) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any designated representative or alternate designated representative, including private legal disputes concerning the proceeds of TR SO_2 Group 1 allowance transfers.

§ 97.618 Delegation by designated representative and alternate designated representative.

(a) A designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(b) An alternate designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(c) In order to delegate authority to a natural person to make an electronic submission to the Administrator in accordance with paragraph (a) or (b) of this section, the designated representative or alternate designated representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(1) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such designated representative or alternate designated representative;

(2) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to in this section as an ''agent'');

(3) For each such natural person, a list of the type or types of electronic submissions under paragraph (a) or (b) of this section for which authority is delegated to him or her; and

(4) The following certification statements by such designated representative or alternate designated representative:

(i) ''I agree that any electronic submission to the Administrator that is made by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a designated representative or alternate designated representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.618(d) shall be deemed to be an electronic submission by me.''

(ii) ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.618(d), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.618 is terminated.''.

(d) A notice of delegation submitted under paragraph (c) of this section shall be effective, with regard to the designated representative or alternate designated representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such designated representative or alternate designated representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(e) Any electronic submission covered by the certification in paragraph (c)(4)(i) of this section and made in accordance with a notice of delegation effective under paragraph (d) of this section shall be deemed to be an electronic submission by the designated representative or alternate designated representative submitting such notice of delegation.

§ 97.619 [Reserved]

§ 97.620 Establishment of compliance accounts, assurance accounts, and general accounts.

(a) *Compliance accounts.* Upon receipt of a complete certificate of representation under § 97.616, the Administrator will establish a compliance account for the TR SO_2 Group 1 source for which the certificate of representation was submitted, unless the source already has a compliance account. The designated representative and any alternate designated representative of the source shall be the authorized account representative and the alternate authorized account representative respectively of the compliance account.

(b) *Assurance accounts.* The Administrator will establish assurance accounts for certain owners and operators and States in accordance with § 97.625(b)(3).

(c) *General accounts.* (1) Application for general account. (i) Any person may apply to open a general account, for the purpose of holding and transferring TR SO_2 Group 1 allowances, by submitting to the Administrator a complete application for a general account. Such application shall designate one and only one authorized account representative and may designate one and only one alternate authorized account representative who may act on behalf of the authorized account representative.

(A) The authorized account representative and alternate authorized account representative shall be selected by an agreement binding on the persons who have an ownership interest with respect to TR SO_2 Group 1 allowances held in the general account.

(B) The agreement by which the alternate authorized account representative is selected shall include a procedure for authorizing the alternate authorized account representative to act in lieu of the authorized account representative.

(ii) A complete application for a general account shall include the following elements in a format prescribed by the Administrator:

(A) Name, mailing address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the authorized account representative and any alternate authorized account representative;

(B) An identifying name for the general account;

(C) A list of all persons subject to a binding agreement for the authorized account representative and any alternate authorized account representative to represent their ownership interest with respect to the TR SO_2 Group 1 allowances held in the general account;

(D) The following certification statement by the authorized account representative and any alternate authorized account representative: ''I certify that I was selected as the authorized account representative or the alternate authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to TR SO_2 Group 1 allowances held in the general account. I certify that I have all

the necessary authority to carry out my duties and responsibilities under the TR SO_2 Group 1 Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the Administrator regarding the general account.''

(E) The signature of the authorized account representative and any alternate authorized account representative and the dates signed.

(iii) Unless otherwise required by the Administrator, documents of agreement referred to in the application for a general account shall not be submitted to the Administrator. The Administrator shall not be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) Authorization of authorized account representative and alternate authorized account representative. (i) Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section, the Administrator will establish a general account for the person or persons for whom the application is submitted, and upon and after such receipt by the Administrator:

(A) The authorized account representative of the general account shall be authorized and shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to TR SO_2 Group 1 allowances held in the general account in all matters pertaining to the TR SO_2 Group 1 Trading Program, notwithstanding any agreement between the authorized account representative and such person.

(B) Any alternate authorized account representative shall be authorized, and any representation, action, inaction, or submission by any alternate authorized account representative shall be deemed to be a representation, action, inaction, or submission by the authorized account representative.

(C) Each person who has an ownership interest with respect to TR SO_2 Group 1 allowances held in the general account shall be bound by any decision or order issued to the authorized account representative or alternate authorized account representative by the Administrator regarding the general account.

(ii) Except as provided in paragraph (c)(5) of this section concerning delegation of authority to make submissions, each submission concerning the general account shall be made, signed, and certified by the authorized account representative or any alternate authorized account representative for the persons having an ownership interest with respect to TR SO_2 Group 1 allowances held in the general account. Each such submission shall include the following certification statement by the authorized account representative or any alternate authorized account representative: ''I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the TR SO_2 Group 1 allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(iii) Except in this section, whenever the term ''authorized account representative'' is used in this subpart, the term shall be construed to include the authorized account representative or any alternate authorized account representative.

(3) Changing authorized account representative and alternate authorized account representative; changes in persons with ownership interest. (i) The authorized account representative of a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (c)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous authorized

account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new authorized account representative and the persons with an ownership interest with respect to the TR SO_2 Group 1 allowances in the general account.

(ii) The alternate authorized account representative of a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (c)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate authorized account representative, the authorized account representative, and the persons with an ownership interest with respect to the TR SO_2 Group 1 allowances in the general account.

(iii)(A) In the event a person having an ownership interest with respect to TR SO_2 Group 1 allowances in the general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representation, actions, inactions, and submissions of the authorized account representative and any alternate authorized account representative of the account, and the decisions and orders of the Administrator, as if the person were included in such list.

(B) Within 30 days after any change in the persons having an ownership interest with respect to SO_2 Group 1 allowances in the general account, including the addition or removal of a person, the authorized account representative or any alternate authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the TR SO_2 Group 1 allowances in the general account to include the change.

(4) Objections concerning authorized account representative and alternate authorized account representative. (i) Once a complete application for a general account under paragraph (c)(1) of this section has been submitted and received, the Administrator will rely on the application unless and until a superseding complete application for a general account under paragraph (b)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (c)(4)(i) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative of a general account shall affect any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative or the finality of any decision or order by the Administrator under the TR SO_2 Group 1 Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative of a general account, including private legal disputes concerning the proceeds of TR SO_2 Group 1 allowance transfers.

(5) Delegation by authorized account representative and alternate authorized account representative. (i) An authorized account representative of a general account may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(ii) An alternate authorized account representative of a general account may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(iii) In order to delegate authority to a natural person to make an electronic submission to the Administrator in accordance with paragraph (c)(5)(i) or (ii) of this section, the authorized account

representative or alternate authorized account representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(A) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such authorized account representative or alternate authorized account representative;

(B) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to in this section as an ''agent'');

(C) For each such natural person, a list of the type or types of electronic submissions under paragraph (c)(5)(i) or (ii) of this section for which authority is delegated to him or her;

(D) The following certification statement by such authorized account representative or alternate authorized account representative: ''I agree that any electronic submission to the Administrator that is made by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am an authorized account representative or alternate authorized representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.620(c)(5)(iv) shall be deemed to be an electronic submission by me.''; and

(E) The following certification statement by such authorized account representative or alternate authorized account representative: ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.620(c)(5)(iv), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.620(c)(5) is terminated.''.

(iv) A notice of delegation submitted under paragraph (c)(5)(iii) of this section shall be effective, with regard to the authorized account representative or alternate authorized account representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such authorized account representative or alternate authorized account representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(v) Any electronic submission covered by the certification in paragraph (c)(5)(iii)(D) of this section and made in accordance with a notice of delegation effective under paragraph (c)(5)(iv) of this section shall be deemed to be an electronic submission by the designated representative or alternate designated representative submitting such notice of delegation.

(6) Closing a general account. (i) The authorized account representative or alternate authorized account representative of a general account may submit to the Administrator a request to close the account. Such request shall include a correctly submitted TR SO_2 Group 1 allowance transfer under § 97.622 for any TR SO_2 Group 1 allowances in the account to one or more other Allowance Management System accounts.

(ii) If a general account has no TR SO_2 Group 1 allowance transfers to or from the account for a 12-month period or longer and does not contain any TR SO_2 Group 1 allowances, the Administrator may notify the authorized account representative for the account that the account will be closed after 30 days after the notice is sent. The account will be closed after the 30-day period unless, before the end of the 30-day period, the Administrator receives a correctly submitted TR SO_2 Group 1 allowance transfer under § 97.622 to the account or a statement submitted by the authorized account representative or alternate authorized account representative demonstrating to the satisfaction of the Administrator good cause as to why the account should not be closed.

(d) *Account identification.* The Administrator will assign a unique identifying number to each account established under paragraph (a), (b), or (c) of this section.

(e) *Responsibilities of authorized account representative and alternate authorized account representative.* After the establishment of a compliance account or general account, the Administrator will accept or act on a submission pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of TR SO_2 Group 1 allowances in the account, only if the submission has been made, signed, and certified in accordance with §§ 97.614(a) and 97.618 or paragraphs (c)(2)(ii) and (c)(5) of this section.

§ 97.621 Recordation of TR SO_2 Group 1 allowance allocations and auction results.

(a) By November 7, 2011, the Administrator will record in each TR SO_2 Group 1 source's compliance account the TR SO_2 Group 1 allowances allocated to the TR SO_2 Group 1 units at the source in accordance with § 97.611(a) for the control period in 2015.

(b) By November 7, 2011, the Administrator will record in each TR SO_2 Group 1 source's compliance account the TR SO_2 Group 1 allowances allocated to the TR SO_2 Group 1 units at the source in accordance with § 97.611(a) for the control period in 2016, unless the State in which the source is located notifies the Administrator in writing by October 17, 2011 of the State's intent to submit to the Administrator a complete SIP revision by April 1, 2015 meeting the requirements of § 52.39(d)(1) through (4) of this chapter.

(1) If, by April 1, 2015, the State does not submit to the Administrator such complete SIP revision, the Administrator will record by April 15, 2015 in each TR SO_2 Group 1 source's compliance account the TR SO_2 Group 1 allowances allocated to the TR SO_2 Group 1 units at the source in accordance with § 97.611(a) for the control period in 2016.

(2) If the State submits to the Administrator by April 1, 2015, and the Administrator approves by October 1, 2015, such complete SIP revision, the Administrator will record by October 1, 2015 in each TR SO_2 Group 1 source's compliance account the TR SO_2 Group 1 allowances allocated to the TR SO_2 Group 1 units at the source as provided in such approved, complete SIP revision for the control period in 2016.

(3) If the State submits to the Administrator by April 1, 2015, and the Administrator does not approve by October 1, 2015, such complete SIP revision, the Administrator will record by October 1, 2015 in each TR SO_2 Group 1 source's compliance account the TR SO_2 Group 1 allowances allocated to the TR SO_2 Group 1 units at the source in accordance with § 97.611(a) for the control period in 2016.

(c) By July 1, 2016, the Administrator will record in each TR SO_2 Group 1 source's compliance account the TR SO_2 Group 1 allowances allocated to the TR SO_2 Group 1 units at the source, or in each appropriate Allowance Management System account the TR SO_2 Group 1 allowances auctioned to TR SO_2 Group 1 units, in accordance with § 97.611(a), or with a SIP revision approved under § 52.39(e) or (f) of this chapter, for the control period in 2017 and 2018.

(d) By July 1, 2017, the Administrator will record in each TR SO_2 Group 1 source's compliance account the TR SO_2 Group 1 allowances allocated to the TR SO_2 Group 1 units at the source, or in each appropriate Allowance Management System account the TR SO_2 Group 1 allowances auctioned to TR SO_2 Group 1 units, in accordance with § 97.611(a), or with a SIP revision approved under § 52.39(e) or (f) of this chapter, for the control period in 2019 and 2020.

(e) By July 1, 2018, the Administrator will record in each TR SO_2 Group 1 source's compliance account the TR SO_2 Group 1 allowances allocated to the TR SO_2 Group 1 units at the source, or in each appropriate Allowance Management System account the TR SO_2 Group 1 allowances auctioned to TR SO_2 Group 1 units, in accordance with § 97.611(a), or with a SIP revision approved under § 52.39(e) or (f) of this chapter, for the control period in 2021 and 2022.

(f) By July 1, 2019 and July 1 of each year thereafter, the Administrator will record in each TR SO_2 Group 1 source's compliance account the TR SO_2 Group 1 allowances allocated to the TR SO_2 Group 1 units at the source, or in each

appropriate Allowance Management System account the TR SO_2 Group 1 allowances auctioned to TR SO_2 Group 1 units, in accordance with § 97.611(a), or with a SIP revision approved under § 52.39(e) and (f) of this chapter, for the control period in the fourth year after the year of the applicable recordation deadline under this paragraph.

(g) By August 1, 2015 and August 1 of each year thereafter, the Administrator will record in each TR SO_2 Group 1 source's compliance account the TR SO_2 Group 1 allowances allocated to the TR SO_2 Group 1 units at the source, or in each appropriate Allowance Management System account the TR SO_2 Group 1 allowances auctioned to TR SO_2 Group 1 units, in accordance with § 97.612(a)(2) through (8) and (12), or with a SIP revision approved under § 52.39(e) and (f) of this chapter, for the control period in the year of the applicable recordation deadline under this paragraph.

(h) By August 1, 2015 and August 1 of each year thereafter, the Administrator will record in each TR SO_2 Group 1 source's compliance account the TR SO_2 Group 1 allowances allocated to the TR SO_2 Group 1 units at the source in accordance with § 97.612(b)(2) through (8) and (12) for the control period in the year of the applicable recordation deadline under this paragraph.

(i) By February 15, 2016 and February 15 of each year thereafter, the Administrator will record in each TR SO_2 Group 1 source's compliance account the TR SO_2 Group 1 allowances allocated to the TR SO_2 Group 1 units at the source in accordance with § 97.612(a)(9) through (12), for the control period in the year before the year of the applicable recordation deadline under this paragraph.

(j) By the date on which any allocation or auction results, other than an allocation or auction results described in paragraphs (a) through (i) of this section, of TR SO_2 Group 1 allowances to a recipient is made by or are submitted to the Administrator in accordance with § 97.611 or § 97.612 or with a SIP revision approved under § 52.39(e) or (f) of this chapter, the Administrator will record such allocation or auction results in the appropriate Allowance Management System account.

(k) When recording the allocation or auction of TR SO_2 Group 1 allowances to a TR SO_2 Group 1 unit or other entity in an Allowance Management System account, the Administrator will assign each TR SO_2 Group 1 allowance a unique identification number that will include digits identifying the year of the control period for which the TR SO_2 Group 1 allowance is allocated or auctioned.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.622 Submission of TR SO_2 Group 1 allowance transfers.

(a) An authorized account representative seeking recordation of a TR SO_2 Group 1 allowance transfer shall submit the transfer to the Administrator.

(b) A TR SO_2 Group 1 allowance transfer shall be correctly submitted if:

(1) The transfer includes the following elements, in a format prescribed by the Administrator:

(i) The account numbers established by the Administrator for both the transferor and transferee accounts;

(ii) The serial number of each TR SO_2 Group 1 allowance that is in the transferor account and is to be transferred; and

(iii) The name and signature of the authorized account representative of the transferor account and the date signed; and

(2) When the Administrator attempts to record the transfer, the transferor account includes each TR SO_2 Group 1 allowance identified by serial number in the transfer.

§ 97.623 Recordation of TR SO_2 Group 1 allowance transfers.

(a) Within 5 business days (except as provided in paragraph (b) of this section) of receiving a TR SO_2 Group 1 allowance transfer that is correctly submitted under § 97.622, the Administrator will record a TR SO_2 Group 1 allowance transfer by moving each TR SO_2 Group 1 allowance from the transferor account to the transferee account as specified in the transfer.

(b) A TR SO_2 Group 1 allowance transfer to or from a compliance account that is submitted for recordation

after the allowance transfer deadline for a control period and that includes any TR SO_2 Group 1 allowances allocated for any control period before such allowance transfer deadline will not be recorded until after the Administrator completes the deductions from such compliance account under § 97.624 for the control period immediately before such allowance transfer deadline.

(c) Where a TR SO_2 Group 1 allowance transfer is not correctly submitted under § 97.622, the Administrator will not record such transfer.

(d) Within 5 business days of recordation of a TR SO_2 Group 1 allowance transfer under paragraphs (a) and (b) of the section, the Administrator will notify the authorized account representatives of both the transferor and transferee accounts.

(e) Within 10 business days of receipt of a TR SO_2 Group 1 allowance transfer that is not correctly submitted under § 97.622, the Administrator will notify the authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer, and

(2) The reasons for such non-recordation.

§ 97.624 Compliance with TR SO_2 Group 1 emissions limitation.

(a) *Availability for deduction for compliance.* TR SO_2 Group 1 allowances are available to be deducted for compliance with a source's TR SO_2 Group 1 emissions limitation for a control period in a given year only if the TR SO_2 Group 1 allowances:

(1) Were allocated for such control period or a control period in a prior year; and

(2) Are held in the source's compliance account as of the allowance transfer deadline for such control period.

(b) *Deductions for compliance.* After the recordation, in accordance with § 97.623, of TR SO_2 Group 1 allowance transfers submitted by the allowance transfer deadline for a control period in a given year, the Administrator will deduct from each source's compliance account TR SO_2 Group 1 allowances available under paragraph (a) of this section in order to determine whether the source meets the TR SO_2 Group 1 emissions limitation for such control period, as follows:

(1) Until the amount of TR SO_2 Group 1 allowances deducted equals the number of tons of total SO_2 emissions from all TR SO_2 Group 1 units at the source for such control period; or

(2) If there are insufficient TR SO_2 Group 1 allowances to complete the deductions in paragraph (b)(1) of this section, until no more TR SO_2 Group 1 allowances available under paragraph (a) of this section remain in the compliance account.

(c)(1) *Identification of TR SO_2 Group 1 allowances by serial number.* The authorized account representative for a source's compliance account may request that specific TR SO_2 Group 1 allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period in a given year in accordance with paragraph (b) or (d) of this section. In order to be complete, such request shall be submitted to the Administrator by the allowance transfer deadline for such control period and include, in a format prescribed by the Administrator, the identification of the TR SO_2 Group 1 source and the appropriate serial numbers.

(2) *First-in, first-out.* The Administrator will deduct TR SO_2 Group 1 allowances under paragraph (b) or (d) of this section from the source's compliance account in accordance with a complete request under paragraph (c)(1) of this section or, in the absence of such request or in the case of identification of an insufficient amount of TR SO_2 Group 1 allowances in such request, on a first-in, first-out accounting basis in the following order:

(i) Any TR SO_2 Group 1 allowances that were allocated to the units at the source and not transferred out of the compliance account, in the order of recordation; and then

(ii) Any TR SO_2 Group 1 allowances that were allocated to any unit and transferred to and recorded in the compliance account pursuant to this subpart, in the order of recordation.

(d) *Deductions for excess emissions.* After making the deductions for compliance under paragraph (b) of this section for a control period in a year in which the TR SO_2 Group 1 source has

excess emissions, the Administrator will deduct from the source's compliance account an amount of TR SO_2 Group 1 allowances, allocated for a control period in a prior year or the control period in the year of the excess emissions or in the immediately following year, equal to two times the number of tons of the source's excess emissions.

(e) *Recordation of deductions.* The Administrator will record in the appropriate compliance account all deductions from such an account under paragraphs (b) and (d) of this section.

§ 97.625 Compliance with TR SO_2 Group 1 assurance provisions.

(a) *Availability for deduction.* TR SO_2 Group 1 allowances are available to be deducted for compliance with the TR SO_2 Group 1 assurance provisions for a control period in a given year by the owners and operators of a group of one or more TR SO_2 Group 1 sources and units in a State (and Indian country within the borders of such State) only if the TR SO_2 Group 1 allowances:

(1) Were allocated for a control period in a prior year or the control period in the given year or in the immediately following year; and

(2) Are held in the assurance account, established by the Administrator for such owners and operators of such group of TR SO_2 Group 1 sources and units in such State (and Indian country within the borders of such State) under paragraph (b)(3) of this section, as of the deadline established in paragraph (b)(4) of this section.

(b) *Deductions for compliance.* The Administrator will deduct TR SO_2 Group 1 allowances available under paragraph (a) of this section for compliance with the TR SO_2 Group 1 assurance provisions for a State for a control period in a given year in accordance with the following procedures:

(1) By June 1, 2018 and June 1 of each year thereafter, the Administrator will:

(i) Calculate, for each State (and Indian country within the borders of such State), the total SO_2 emissions from all TR SO_2 Group 1 units at TR SO_2 Group 1 sources in the State (and Indian country within the borders of such State) during the control period in the year before the year of this calculation deadline and the amount, if any, by which such total SO_2 emissions exceed the State assurance level as described in § 97.606(c)(2)(iii); and

(ii) Promulgate a notice of data availability of the results of the calculations required in paragraph (b)(1)(i) of this section, including separate calculations of the SO_2 emissions from each TR SO_2 Group 1 source.

(2) For each notice of data availability required in paragraph (b)(1)(ii) of this section and for any State (and Indian country within the borders of such State) identified in such notice as having TR SO_2 Group 1 units with total SO_2 emissions exceeding the State assurance level for a control period in a given year, as described in § 97.606(c)(2)(iii):

(i) By July 1 immediately after the promulgation of such notice, the designated representative of each TR SO_2 Group 1 source in each such State (and Indian country within the borders of such State) shall submit a statement, in a format prescribed by the Administrator, providing for each TR SO_2 Group 1 unit (if any) at the source that operates during, but is not allocated an amount of TR SO_2 Group 1 allowances for, such control period, the unit's allowable SO_2 emission rate for such control period and, if such rate is expressed in lb per mmBtu, the unit's heat rate.

(ii) By August 1 immediately after the promulgation of such notice, the Administrator will calculate, for each such State (and Indian country within the borders of such State) and such control period and each common designated representative for such control period for a group of one or more TR SO_2 Group 1 sources and units in the State (and Indian country within the borders of such State), the common designated representative's share of the total SO_2 emissions from all TR SO_2 Group 1 units at TR SO_2 Group 1 sources in the State (and Indian country within the borders of such State), the common designated representative's assurance level, and the amount (if any) of TR SO_2 Group 1 allowances that the owners and operators of such group of sources and units must hold in

accordance with the calculation formula in § 97.606(c)(2)(i) and will promulgate a notice of data availability of the results of these calculations.

(iii) The Administrator will provide an opportunity for submission of objections to the calculations referenced by the notice of data availability required in paragraph (b)(2)(ii) of this section and the calculations referenced by the relevant notice of data availability required in paragraph (b)(1)(i) of this section.

(A) Objections shall be submitted by the deadline specified in such notice and shall be limited to addressing whether the calculations referenced in the relevant notice required under paragraph (b)(1)(ii) of this section and referenced in the notice required under paragraph (b)(2)(ii) of this section are in accordance with § 97.606(c)(2)(iii), §§ 97.606(b) and 97.630 through 97.635, the definitions of ''common designated representative'', ''common designated representative's assurance level'', and ''common designated representative's share'' in § 97.602, and the calculation formula in § 97.606(c)(2)(i).

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(2)(iii)(A) of this section. By October 1 immediately after the promulgation of such notice, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(iii)(A) of this section.

(3) For any State (and Indian country within the borders of such State) referenced in each notice of data availability required in paragraph (b)(2)(iii)(B) of this section as having TR SO_2 Group 1 units with total SO_2 emissions exceeding the State assurance level for a control period in a given year, the Administrator will establish one assurance account for each set of owners and operators referenced, in the notice of data availability required under paragraph (b)(2)(iii)(B) of this section, as all of the owners and operators of a group of TR SO_2 Group 1 sources and units in the State (and Indian country within the borders of such State) having a common designated representative for such control period and as being required to hold TR SO_2 Group 1 allowances.

(4)(i) As of midnight of November 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii)(B) of this section, the owners and operators described in paragraph (b)(3) of this section shall hold in the assurance account established for them and for the appropriate TR SO_2 Group 1 sources, TR SO_2 Group 1 units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section a total amount of TR SO_2 Group 1 allowances, available for deduction under paragraph (a) of this section, equal to the amount such owners and operators are required to hold with regard to such sources, units and State (and Indian country within the borders of such State) as calculated by the Administrator and referenced in such notice.

(ii) Notwithstanding the allowance-holding deadline specified in paragraph (b)(4)(i) of this section, if November 1 is not a business day, then such allowance-holding deadline shall be midnight of the first business day thereafter.

(5) After November 1 (or the date described in paragraph (b)(4)(ii) of this section) immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii)(B) of this section and after the recordation, in accordance with § 97.623, of TR SO_2 Group 1 allowance transfers submitted by midnight of such date, the Administrator will determine whether the owners and operators described in paragraph (b)(3) of this section hold, in the assurance account for the appropriate TR SO_2 Group 1 sources, TR SO_2 Group 1 units, and State (and Indian country within the borders of such State) established under paragraph (b)(3) of this section, the amount of TR SO_2 Group 1 allowances available under paragraph (a) of this section that the owners and operators are required to hold with regard to such sources, units, and State (and Indian country within the borders of such

State) as calculated by the Administrator and referenced in the notice required in paragraph (b)(2)(iii)(B) of this section.

(6) Notwithstanding any other provision of this subpart and any revision, made by or submitted to the Administrator after the promulgation of the notice of data availability required in paragraph (b)(2)(iii)(B) of this section for a control period in a given year, of any data used in making the calculations referenced in such notice, the amounts of TR SO_2 Group 1 allowances that the owners and operators are required to hold in accordance with § 97.606(c)(2)(i) for such control period shall continue to be such amounts as calculated by the Administrator and referenced in such notice required in paragraph (b)(2)(iii)(B) of this section, except as follows:

(i) If any such data are revised by the Administrator as a result of a decision in or settlement of litigation concerning such data on appeal under part 78 of this chapter of such notice, or on appeal under section 307 of the Clean Air Act of a decision rendered under part 78 of this chapter on appeal of such notice, then the Administrator will use the data as so revised to recalculate the amounts of TR SO_2 Group 1 allowances that owners and operators are required to hold in accordance with the calculation formula in § 97.606(c)(2)(i) for such control period with regard to the TR SO_2 Group 1 sources, TR SO_2 Group 1 units, and State (and Indian country within the borders of such State) involved, provided that such litigation under part 78 of this chapter, or the proceeding under part 78 of this chapter that resulted in the decision appealed in such litigation under section 307 of the Clean Air Act, was initiated no later than 30 days after promulgation of such notice required in paragraph (b)(2)(iii)(B) of this section.

(ii) If any such data are revised by the owners and operators of a TR SO_2 Group 1 source and TR SO_2 Group 1 unit whose designated representative submitted such data under paragraph (b)(2)(i) of this section, as a result of a decision in or settlement of litigation concerning such submission, then the Administrator will use the data as so revised to recalculate the amounts of TR SO_2 Group 1 allowances that owners and operators are required to hold in accordance with the calculation formula in § 97.606(c)(2)(i) for such control period with regard to the TR SO_2 Group 1 sources, TR SO_2 Group 1 units, and State (and Indian country within the borders of such State) involved, provided that such litigation was initiated no later than 30 days after promulgation of such notice required in paragraph (b)(2)(iii)(B) of this section.

(iii) If the revised data are used to recalculate, in accordance with paragraphs (b)(6)(i) and (ii) of this section, the amount of TR SO_2 Group 1 allowances that the owners and operators are required to hold for such control period with regard to the TR SO_2 Group 1 sources, TR SO_2 Group 1 units, and State (and Indian country within the borders of such State) involved—

(A) Where the amount of TR SO_2 Group 1 allowances that the owners and operators are required to hold increases as a result of the use of all such revised data, the Administrator will establish a new, reasonable deadline on which the owners and operators shall hold the additional amount of TR SO_2 Group 1 allowances in the assurance account established by the Administrator for the appropriate TR SO_2 Group 1 sources, TR SO_2 Group 1 units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section. The owners' and operators' failure to hold such additional amount, as required, before the new deadline shall not be a violation of the Clean Air Act. The owners' and operators' failure to hold such additional amount, as required, as of the new deadline shall be a violation of the Clean Air Act. Each TR SO_2 Group 1 allowance that the owners and operators fail to hold as required as of the new deadline, and each day in such control period, shall be a separate violation of the Clean Air Act.

(B) For the owners and operators for which the amount of TR SO_2 Group 1 allowances required to be held decreases as a result of the use of all such revised data, the Administrator will record, in all accounts from which TR SO_2 Group 1 allowances were transferred by such owners and operators for

such control period to the assurance account established by the Administrator for the appropriate TR SO_2 Group 1 sources, TR SO_2 Group 1 units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section, a total amount of the TR SO_2 Group 1 allowances held in such assurance account equal to the amount of the decrease. If TR SO_2 Group 1 allowances were transferred to such assurance account from more than one account, the amount of TR SO_2 Group 1 allowances recorded in each such transferor account will be in proportion to the percentage of the total amount of TR SO_2 Group 1 allowances transferred to such assurance account for such control period from such transferor account.

(C) Each TR SO_2 Group 1 allowance held under paragraph (b)(6)(iii)(A) of this section as a result of recalculation of requirements under the TR SO_2 Group 1 assurance provisions for such control period must be a TR SO_2 Group 1 allowance allocated for a control period in a year before or the year immediately following, or in the same year as, the year of such control period.

[76 FR 48432, Aug. 8, 2011, as amended at 77 FR 10340, Feb. 21, 2012; 79 FR 71672, Dec. 3, 2014]

§ 97.626 Banking.

(a) A TR SO_2 Group 1 allowance may be banked for future use or transfer in a compliance account or a general account in accordance with paragraph (b) of this section.

(b) Any TR SO_2 Group 1 allowance that is held in a compliance account or a general account will remain in such account unless and until the TR SO_2 Group 1 allowance is deducted or transferred under § 97.611(c), § 97.623, § 97.624, § 97.625, § 97.627, or § 97.628.

§ 97.627 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any Allowance Management System account. Within 10 business days of making such correction, the Administrator will notify the authorized account representative for the account.

§ 97.628 Administrator's action on submissions.

(a) The Administrator may review and conduct independent audits concerning any submission under the TR SO_2 Group 1 Trading Program and make appropriate adjustments of the information in the submission.

(b) The Administrator may deduct TR SO_2 Group 1 allowances from or transfer TR SO_2 Group 1 allowances to a compliance account or an assurance account, based on the information in a submission, as adjusted under paragraph (a)(1) of this section, and record such deductions and transfers.

§ 97.629 [Reserved]

§ 97.630 General monitoring, recordkeeping, and reporting requirements.

The owners and operators, and to the extent applicable, the designated representative, of a TR SO_2 Group 1 unit, shall comply with the monitoring, recordkeeping, and reporting requirements as provided in this subpart and subparts F and G of part 75 of this chapter. For purposes of applying such requirements, the definitions in § 97.602 and in § 72.2 of this chapter shall apply, the terms ''affected unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') in part 75 of this chapter shall be deemed to refer to the terms ''TR SO_2 Group 1 unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') respectively as defined in § 97.602, and the term ''newly affected unit'' shall be deemed to mean ''newly affected TR SO_2 Group 1 unit''. The owner or operator of a unit that is not a TR SO_2 Group 1 unit but that is monitored under § 75.16(b)(2) of this chapter shall comply with the same monitoring, recordkeeping, and reporting requirements as a TR SO_2 Group 1 unit.

(a) *Requirements for installation, certification, and data accounting.* The owner or operator of each TR SO_2 Group 1 unit shall:

(1) Install all monitoring systems required under this subpart for monitoring SO_2 mass emissions and individual unit heat input (including all

systems required to monitor SO_2 concentration, stack gas moisture content, stack gas flow rate, CO_2 or O_2 concentration, and fuel flow rate, as applicable, in accordance with §§ 75.11 and 75.16 of this chapter);

(2) Successfully complete all certification tests required under § 97.631 and meet all other requirements of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraph (a)(1) of this section; and

(3) Record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section.

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the following dates and shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the following dates.

(1) For the owner or operator of a TR SO_2 Group 1 unit that commences commercial operation before July 1, 2014, January 1, 2015.

(2) For the owner or operator of a TR SO_2 Group 1 unit that commences commercial operation on or after July 1, 2014, by the later of the following:

(i) January 1, 2015; or

(ii) 180 calendar days after the date on which the unit commences commercial operation.

(3) The owner or operator of a TR SO_2 Group 1 unit for which construction of a new stack or flue or installation of add-on SO_2 emission controls is completed after the applicable deadline under paragraph (b)(1) or (2) of this section shall meet the requirements of §§ 75.4(e)(1) through (e)(4) of this chapter, except that:

(i) Such requirements shall apply to the monitoring systems required under § 97.630 through § 97.635, rather than the monitoring systems required under part 75 of this chapter;

(ii) SO_2 concentration, stack gas moisture content, stack gas volumetric flow rate, and O_2 or CO_2 concentration data shall be determined and reported, rather than the data listed in § 75.4(e)(2) of this chapter; and

(iii) Any petition for another procedure under § 75.4(e)(2) of this chapter shall be submitted under § 97.635, rather than § 75.66.

(c) *Reporting data.* The owner or operator of a TR SO_2 Group 1 unit that does not meet the applicable compliance date set forth in paragraph (b) of this section for any monitoring system under paragraph (a)(1) of this section shall, for each such monitoring system, determine, record, and report maximum potential (or, as appropriate, minimum potential) values for SO_2 concentration, stack gas flow rate, stack gas moisture content, fuel flow rate, and any other parameters required to determine SO_2 mass emissions and heat input in accordance with § 75.31(b)(2) or (c)(3) of this chapter or section 2.4 of appendix D to part 75 of this chapter, as applicable.

(d) *Prohibitions.* (1) No owner or operator of a TR SO_2 Group 1 unit shall use any alternative monitoring system, alternative reference method, or any other alternative to any requirement of this subpart without having obtained prior written approval in accordance with § 97.635.

(2) No owner or operator of a TR SO_2 Group 1 unit shall operate the unit so as to discharge, or allow to be discharged, SO_2 to the atmosphere without accounting for all such SO_2 in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(3) No owner or operator of a TR SO_2 Group 1 unit shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording SO_2 mass discharged into the atmosphere or heat input, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(4) No owner or operator of a TR SO_2 Group 1 unit shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by an exemption under § 97.605 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the Administrator for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The designated representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with § 97.631(d)(3)(i).

(e) *Long-term cold storage*. The owner or operator of a TR SO_2 Group 1 unit is subject to the applicable provisions of § 75.4(d) of this chapter concerning units in long-term cold storage.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.631 Initial monitoring system certification and recertification procedures.

(a) The owner or operator of a TR SO_2 Group 1 unit shall be exempt from the initial certification requirements of this section for a monitoring system under § 97.630(a)(1) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with part 75 of this chapter; and

(2) The applicable quality-assurance and quality-control requirements of § 75.21 of this chapter and appendices B and D to part 75 of this chapter are fully met for the certified monitoring system described in paragraph (a)(1) of this section.

(b) The recertification provisions of this section shall apply to a monitoring system under § 97.630(a)(1) that is exempt from initial certification requirements under paragraph (a) of this section.

(c) [Reserved]

(d) Except as provided in paragraph (a) of this section, the owner or operator of a TR SO_2 Group 1 unit shall comply with the following initial certification and recertification procedures, for a continuous monitoring system (*i.e.*, a continuous emission monitoring system and an excepted monitoring system under appendix D to part 75 of this chapter) under § 97.630(a)(1). The owner or operator of a unit that qualifies to use the low mass emissions excepted monitoring methodology under § 75.19 of this chapter or that qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall comply with the procedures in paragraph (e) or (f) of this section respectively.

(1) Requirements for initial certification. The owner or operator shall ensure that each continuous monitoring system under § 97.630(a)(1) (including the automated data acquisition and handling system) successfully completes all of the initial certification testing required under § 75.20 of this chapter by the applicable deadline in § 97.630(b). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this subpart in a location where no such monitoring system was previously installed, initial certification in accordance with § 75.20 of this chapter is required.

(2) Requirements for recertification. Whenever the owner or operator makes a replacement, modification, or change in any certified continuous emission monitoring system under § 97.630(a)(1) that may significantly affect the ability of the system to accurately measure or record SO_2 mass emissions or heat input rate or to meet the quality-assurance and quality-control requirements of § 75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the monitoring system in accordance with § 75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify each continuous emission monitoring system whose accuracy is potentially affected by the change, in accordance with § 75.20(b) of this chapter. Examples of changes to a continuous

emission monitoring system that require recertification include: Replacement of the analyzer, complete replacement of an existing continuous emission monitoring system, or change in location or orientation of the sampling probe or site. Any fuel flowmeter system under § 97.630(a)(1) is subject to the recertification requirements in § 75.20(g)(6) of this chapter.

(3) Approval process for initial certification and recertification. For initial certification of a continuous monitoring system under § 97.630(a)(1), paragraphs (d)(3)(i) through (v) of this section apply. For recertifications of such monitoring systems, paragraphs (d)(3)(i) through (iv) of this section and the procedures in §§ 75.20(b)(5) and (g)(7) of this chapter (in lieu of the procedures in paragraph (d)(3)(v) of this section) apply, provided that in applying paragraphs (d)(3)(i) through (iv) of this section, the words ''certification'' and ''initial certification'' are replaced by the word ''recertification'' and the word ''certified'' is replaced by the word ''recertified''.

(i) Notification of certification. The designated representative shall submit to the appropriate EPA Regional Office and the Administrator written notice of the dates of certification testing, in accordance with § 97.633.

(ii) Certification application. The designated representative shall submit to the Administrator a certification application for each monitoring system. A complete certification application shall include the information specified in § 75.63 of this chapter.

(iii) Provisional certification date. The provisional certification date for a monitoring system shall be determined in accordance with § 75.20(a)(3) of this chapter. A provisionally certified monitoring system may be used under the TR SO_2 Group 1 Trading Program for a period not to exceed 120 days after receipt by the Administrator of the complete certification application for the monitoring system under paragraph (d)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the Administrator does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of the date of receipt of the complete certification application by the Administrator.

(iv) Certification application approval process. The Administrator will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under paragraph (d)(3)(ii) of this section. In the event the Administrator does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the TR SO_2 Group 1 Trading Program.

(A) Approval notice. If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of part 75 of this chapter, then the Administrator will issue a written notice of approval of the certification application within 120 days of receipt.

(B) Incomplete application notice. If the certification application is not complete, then the Administrator will issue a written notice of incompleteness that sets a reasonable date by which the designated representative must submit the additional information required to complete the certification application. If the designated representative does not comply with the notice of incompleteness by the specified date, then the Administrator may issue a notice of disapproval under paragraph (d)(3)(iv)(C) of this section.

(C) Disapproval notice. If the certification application shows that any monitoring system does not meet the performance requirements of part 75 of this chapter or if the certification application is incomplete and the requirement for disapproval under paragraph (d)(3)(iv)(B) of this section is met, then the Administrator will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval,

the provisional certification is invalidated by the Administrator and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification (as defined under § 75.20(a)(3) of this chapter).

(D) Audit decertification. The Administrator may issue a notice of disapproval of the certification status of a monitor in accordance with § 97.632(b).

(v) Procedures for loss of certification. If the Administrator issues a notice of disapproval of a certification application under paragraph (d)(3)(iv)(C) of this section or a notice of disapproval of certification status under paragraph (d)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each disapproved monitoring system, for each hour of unit operation during the period of invalid data specified under § 75.20(a)(4)(iii), § 75.20(g)(7), or § 75.21(e) of this chapter and continuing until the applicable date and hour specified under § 75.20(a)(5)(i) or (g)(7) of this chapter:

(1) For a disapproved SO_2 pollutant concentration monitor and disapproved flow monitor, respectively, the maximum potential concentration of SO_2 and the maximum potential flow rate, as defined in sections 2.1.1.1 and 2.1.4.1 of appendix A to part 75 of this chapter.

(2) For a disapproved moisture monitoring system and disapproved diluent gas monitoring system, respectively, the minimum potential moisture percentage and either the maximum potential CO_2 concentration or the minimum potential O_2 concentration (as applicable), as defined in sections 2.1.5, 2.1.3.1, and 2.1.3.2 of appendix A to part 75 of this chapter.

(3) For a disapproved fuel flowmeter system, the maximum potential fuel flow rate, as defined in section 2.4.2.1 of appendix D to part 75 of this chapter.

(B) The designated representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (d)(3)(i) and (ii) of this section.

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the Administrator's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(e) The owner or operator of a unit qualified to use the low mass emissions (LME) excepted methodology under § 75.19 of this chapter shall meet the applicable certification and recertification requirements in §§ 75.19(a)(2) and 75.20(h) of this chapter. If the owner or operator of such a unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall also meet the certification and recertification requirements in § 75.20(g) of this chapter.

(f) The designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator under subpart E of part 75 of this chapter shall comply with the applicable notification and application procedures of § 75.20(f) of this chapter.

§ 97.632 Monitoring system out-of-control periods.

(a) *General provisions.* Whenever any monitoring system fails to meet the quality-assurance and quality-control requirements or data validation requirements of part 75 of this chapter, data shall be substituted using the applicable missing data procedures in subpart D or appendix D to part 75 of this chapter.

(b) *Audit decertification.* Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under § 97.631 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the Administrator will issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the Administrator or any

State or permitting authority. By issuing the notice of disapproval, the Administrator revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the applicable initial certification or recertification procedures in § 97.631 for each disapproved monitoring system.

§ 97.633 Notifications concerning monitoring.

The designated representative of a TR SO_2 Group 1 unit shall submit written notice to the Administrator in accordance with § 75.61 of this chapter.

§ 97.634 Recordkeeping and reporting.

(a) *General provisions.* The designated representative shall comply with all recordkeeping and reporting requirements in paragraphs (b) through (e) of this section, the applicable recordkeeping and reporting requirements in subparts F and G of part 75 of this chapter, and the requirements of § 97.614(a).

(b) *Monitoring plans.* The owner or operator of a TR SO_2 Group 1 unit shall comply with requirements of § 75.62 of this chapter.

(c) *Certification applications.* The designated representative shall submit an application to the Administrator within 45 days after completing all initial certification or recertification tests required under § 97.631, including the information required under § 75.63 of this chapter.

(d) *Quarterly reports.* The designated representative shall submit quarterly reports, as follows:

(1) The designated representative shall report the SO_2 mass emissions data and heat input data for the TR SO_2 Group 1 unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(i) For a unit that commences commercial operation before July 1, 2014, the calendar quarter covering January 1, 2015 through March 31, 2015; or

(ii) For a unit that commences commercial operation on or after July 1, 2014, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification under § 97.630(b), unless that quarter is the third or fourth quarter of 2014, in which case reporting shall commence in the quarter covering January 1, 2015 through March 31, 2015.

(2) The designated representative shall submit each quarterly report to the Administrator within 30 days after the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in § 75.64 of this chapter.

(3) For TR SO_2 Group 1 units that are also subject to the Acid Rain Program, TR NO_X Annual Trading Program, or TR NO_X Ozone Season Trading Program, quarterly reports shall include the applicable data and information required by subparts F through H of part 75 of this chapter as applicable, in addition to the SO_2 mass emission data, heat input data, and other information required by this subpart.

(4) The Administrator may review and conduct independent audits of any quarterly report in order to determine whether the quarterly report meets the requirements of this subpart and part 75 of this chapter, including the requirement to use substitute data.

(i) The Administrator will notify the designated representative of any determination that the quarterly report fails to meet any such requirements and specify in such notification any corrections that the Administrator believes are necessary to make through resubmission of the quarterly report and a reasonable time period within which the designated representative must respond. Upon request by the designated representative, the Administrator may specify reasonable extensions of such time period. Within the time period (including any such extensions) specified by the Administrator, the designated representative shall resubmit the quarterly report with the

corrections specified by the Administrator, except to the extent the designated representative provides information demonstrating that a specified correction is not necessary because the quarterly report already meets the requirements of this subpart and part 75 of this chapter that are relevant to the specified correction.

(ii) Any resubmission of a quarterly report shall meet the requirements applicable to the submission of a quarterly report under this subpart and part 75 of this chapter, except for the deadline set forth in paragraph (d)(2) of this section.

(e) *Compliance certification*. The designated representative shall submit to the Administrator a compliance certification (in a format prescribed by the Administrator) in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(1) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications; and

(2) For a unit with add-on SO_2 emission controls and for all hours where SO_2 data are substituted in accordance with § 75.34(a)(1) of this chapter, the add-on emission controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B to part 75 of this chapter and the substitute data values do not systematically underestimate SO_2 emissions.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.635 Petitions for alternatives to monitoring, recordkeeping, or reporting requirements.

(a) The designated representative of a TR SO_2 Group 1 unit may submit a petition under § 75.66 of this chapter to the Administrator, requesting approval to apply an alternative to any requirement of §§ 97.630 through 97.634.

(b) A petition submitted under paragraph (a) of this section shall include sufficient information for the evaluation of the petition, including, at a minimum, the following information:

(i) Identification of each unit and source covered by the petition;

(ii) A detailed explanation of why the proposed alternative is being suggested in lieu of the requirement;

(iii) A description and diagram of any equipment and procedures used in the proposed alternative;

(iv) A demonstration that the proposed alternative is consistent with the purposes of the requirement for which the alternative is proposed and with the purposes of this subpart and part 75 of this chapter and that any adverse effect of approving the alternative will be *de minimis;* and

(v) Any other relevant information that the Administrator may require.

(c) Use of an alternative to any requirement referenced in paragraph (a) of this section is in accordance with this subpart only to the extent that the petition is approved in writing by the Administrator and that such use is in accordance with such approval.

Subpart DDDDD—TR SO_2 Group 2 Trading Program

SOURCE: 76 FR 48458, Aug. 8, 2011, unless otherwise noted.

§ 97.701 Purpose.

This subpart sets forth the general, designated representative, allowance, and monitoring provisions for the Transport Rule (TR) SO_2 Group 2 Trading Program, under section 110 of the Clean Air Act and § 52.39 of this chapter, as a means of mitigating interstate transport of fine particulates and sulfur dioxide.

§ 97.702 Definitions.

The terms used in this subpart shall have the meanings set forth in this section as follows:

Acid Rain Program means a multistate SO_2 and NO_X air pollution control and emission reduction program established by the Administrator under title IV of the Clean Air Act and parts 72 through 78 of this chapter.

Administrator means the Administrator of the United States Environmental Protection Agency or the Director of the Clean Air Markets Division (or its successor determined by the Administrator) of the United States Environmental Protection Agency, the Administrator's duly authorized representative under this subpart.

Allocate or *allocation* means, with regard to TR SO_2 Group 2 allowances, the determination by the Administrator, State, or permitting authority, in accordance with this subpart and any SIP revision submitted by the State and approved by the Administrator under § 52.39(g), (h), or (i) of this chapter, of the amount of such TR SO_2 Group 2 allowances to be initially credited, at no cost to the recipient, to:

(1) A TR SO_2 Group 2 unit;

(2) A new unit set-aside;

(3) An Indian country new unit set-aside; or

(4) An entity not listed in paragraphs (1) through (3) of this definition;

(5) Provided that, if the Administrator, State, or permitting authority initially credits, to a TR SO_2 Group 2 unit qualifying for an initial credit, a credit in the amount of zero TR SO_2 Group 2 allowances, the TR SO_2 Group 2 unit will be treated as being allocated an amount (*i.e.*, zero) of TR SO_2 Group 2 allowances.

Allowable SO_2 emission rate means, for a unit, the most stringent State or federal SO_2 emission rate limit (in lb/MWhr or, if in lb/mmBtu, converted to lb/MWhr by multiplying it by the unit's heat rate in mmBtu/MWhr) that is applicable to the unit and covers the longest averaging period not exceeding one year.

Allowance Management System means the system by which the Administrator records allocations, deductions, and transfers of TR SO_2 Group 2 allowances under the TR SO_2 Group 2 Trading Program. Such allowances are allocated, recorded, held, deducted, or transferred only as whole allowances.

Allowance Management System account means an account in the Allowance Management System established by the Administrator for purposes of recording the allocation, holding, transfer, or deduction of TR SO_2 Group 2 allowances.

Allowance transfer deadline means, for a control period in a given year, midnight of March 1 (if it is a business day), or midnight of the first business day thereafter (if March 1 is not a business day), immediately after such control period and is the deadline by which a TR SO_2 Group 2 allowance transfer must be submitted for recordation in a TR SO_2 Group 2 source's compliance account in order to be available for use in complying with the source's TR SO_2 Group 2 emissions limitation for such control period in accordance with §§ 97.706 and 97.724.

Alternate designated representative means, for a TR SO_2 Group 2 source and each TR SO_2 Group 2 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to act on behalf of the designated representative in matters pertaining to the TR SO_2 Group 2 Trading Program. If the TR SO_2 Group 2 source is also subject to the Acid Rain Program, TR NO_X Annual Trading Program, or TR NO_X Ozone Season Trading Program, then this natural person shall be the same natural person as the alternate designated representative, as defined in the respective program.

Assurance account means an Allowance Management System account, established by the Administrator under § 97.725(b)(3) for certain owners and operators of a group of one or more TR SO_2 Group 2 sources and units in a given State (and Indian country within the borders of such State), in which are held TR SO_2 Group 2 allowances available for use for a control period in a given year in complying with the TR SO_2 Group 2 assurance provisions in accordance with §§ 97.706 and 97.725.

Authorized account representative means, for a general account, the natural person who is authorized, in accordance with this subpart, to transfer and otherwise dispose of TR SO_2 Group 2 allowances held in the general account and, for a TR SO_2 Group 2 source's compliance account, the designated representative of the source.

Automated data acquisition and handling system or *DAHS* means the component of the continuous emission monitoring system, or other emissions monitoring system approved for use under this subpart, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by this subpart.

Biomass means—

(1) Any organic material grown for the purpose of being converted to energy;

(2) Any organic byproduct of agriculture that can be converted into energy; or

(3) Any material that can be converted into energy and is nonmerchantable for other purposes, that is segregated from other material that is nonmerchantable for other purposes, and that is;

(i) A forest-related organic resource, including mill residues, precommercial thinnings, slash, brush, or byproduct from conversion of trees to merchantable material; or

(ii) A wood material, including pallets, crates, dunnage, manufacturing and construction materials (other than pressure-treated, chemically-treated, or painted wood products), and landscape or right-of-way tree trimmings.

Boiler means an enclosed fossil- or other-fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

Bottoming-cycle unit means a unit in which the energy input to the unit is first used to produce useful thermal energy, where at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

Business day means a day that does not fall on a weekend or a federal holiday.

Certifying official means a natural person who is:

(1) For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy- or decision-making functions for the corporation;

(2) For a partnership or sole proprietorship, a general partner or the proprietor respectively; or

(3) For a local government entity or State, federal, or other public agency, a principal executive officer or ranking elected official.

Clean Air Act means the Clean Air Act, 42 U.S.C. 7401, *et seq*.

Coal means ''coal'' as defined in § 72.2 of this chapter.

Coal-derived fuel means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal, or chemical processing of coal.

Cogeneration system means an integrated group, at a source, of equipment (including a boiler, or combustion turbine, and a steam turbine generator) designed to produce useful thermal energy for industrial, commercial, heating, or cooling purposes and electricity through the sequential use of energy.

Cogeneration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a topping-cycle unit or a bottoming-cycle unit:

(1) Operating as part of a cogeneration system; and

(2) Producing on an annual average basis—

(i) For a topping-cycle unit,

(A) Useful thermal energy not less than 5 percent of total energy output; and

(B) Useful power that, when added to one-half of useful thermal energy produced, is not less than 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output.

(ii) For a bottoming-cycle unit, useful power not less than 45 percent of total energy input;

(3) Provided that the requirements in paragraph (2) of this definition shall not apply to a calendar year referenced in paragraph (2) of this definition during which the unit did not operate at all;

(4) Provided that the total energy input under paragraphs (2)(i)(B) and (2)(ii) of this definition shall equal the unit's total energy input from all fuel, except biomass if the unit is a boiler; and

(5) Provided that, if, throughout its operation during the 12-month period or a calendar year referenced in paragraph (2) of this definition, a unit is operated as part of a cogeneration system and the cogeneration system meets on a system-wide basis the requirement in paragraph (2)(i)(B) or (2)(ii) of this definition, the unit shall be deemed to meet such requirement during that 12-month period or calendar year.

Combustion turbine means an enclosed device comprising:

(1) If the device is simple cycle, a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and

(2) If the device is combined cycle, the equipment described in paragraph (1) of this definition and any associated duct burner, heat recovery steam generator, and steam turbine.

Commence commercial operation means, with regard to a unit:

(1) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in § 97.705.

(i) For a unit that is a TR SO_2 Group 2 unit under § 97.704 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in the introductory text of paragraph (1) of this definition and that subsequently undergoes a physical change or is moved to a new location or source, such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a TR SO_2 Group 2 unit under § 97.704 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in the introductory text of paragraph (1) of this definition and that is subsequently replaced by a unit at the same or a different source, such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

(2) Notwithstanding paragraph (1) of this definition and except as provided in § 97.705, for a unit that is not a TR SO_2 Group 2 unit under § 97.704 on the later of January 1, 2005 or the date the unit commences commercial operation as defined in introductory text of paragraph (1) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a TR SO_2 Group 2 unit under § 97.704.

(i) For a unit with a date for commencement of commercial operation as defined in the introductory text of paragraph (2) of this definition and that subsequently undergoes a physical change or is moved to a different location or source, such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in the introductory text of paragraph (2) of this definition and that is subsequently replaced by a unit at the same or a different source, such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in paragraph (1) or (2) of this definition as appropriate.

Common designated representative means, with regard to a control period in a given year, a designated representative where, as of April 1 immediately after the allowance transfer deadline for such control period, the same natural person is authorized under §§ 97.713(a) and 97.715(a) as the designated representative for a group of one or more TR SO_2 Group 2 sources and units located in a State (and Indian country within the borders of such State).

Common designated representative's assurance level means, with regard to a

specific common designated representative and a State (and Indian country within the borders of such State) and control period in a given year for which the State assurance level is exceeded as described in § 97.706(c)(2)(iii), the common designated representative's share of the State SO_2 Group 2 trading budget with the variability limit for the State for such control period.

Common designated representative's share means, with regard to a specific common designated representative for a control period in a given year:

(1) With regard to a total amount of SO_2 emissions from all TR SO_2 Group 2 units in a State (and Indian country within the borders of such State) during such control period, the total tonnage of SO_2 emissions during such control period from a group of one or more TR SO_2 Group 2 units located in such State (and such Indian country) and having the common designated representative for such control period;

(2) With regard to a State SO_2 Group 2 trading budget with the variability limit for such control period, the amount (rounded to the nearest allowance) equal to the sum of the total amount of TR SO_2 Group 2 allowances allocated for such control period to a group of one or more TR SO_2 Group 2 units located in the State (and Indian country within the borders of such State) and having the common designated representative for such control period and of the total amount of TR SO_2 Group 2 allowances purchased by an owner or operator of such TR SO_2 Group 2 units in an auction for such control period and submitted by the State or the permitting authority to the Administrator for recordation in the compliance accounts for such TR SO_2 Group 2 units in accordance with the TR SO_2 Group 2 allowance auction provisions in a SIP revision approved by the Administrator under § 52.39(h) or (i) of this chapter, multiplied by the sum of the State SO_2 Group 2 trading budget under § 97.710(a) and the State's variability limit under § 97.710(b) for such control period and divided by such State SO_2 Group 2 trading budget;

(3) Provided that, in the case of a unit that operates during, but has no amount of TR SO_2 Group 2 allowances allocated under §§ 97.711 and 97.712 for, such control period, the unit shall be treated, solely for purposes of this definition, as being allocated an amount (rounded to the nearest allowance) of TR SO_2 Group 2 allowances for such control period equal to the unit's allowable SO_2 emission rate applicable to such control period, multiplied by a capacity factor of 0.85 (if the unit is a boiler combusting any amount of coal or coal-derived fuel during such control period), 0.24 (if the unit is a simple combustion turbine during such control period), 0.67 (if the unit is a combined cycle turbine during such control period), 0.74 (if the unit is an integrated coal gasification combined cycle unit during such control period), or 0.36 (for any other unit), multiplied by the unit's maximum hourly load as reported in accordance with this subpart and by 8,760 hours/control period, and divided by 2,000 lb/ton.

Common stack means a single flue through which emissions from 2 or more units are exhausted.

Compliance account means an Allowance Management System account, established by the Administrator for a TR SO_2 Group 2 source under this subpart, in which any TR SO_2 Group 2 allowance allocations to the TR SO_2 Group 2 units at the source are recorded and in which are held any TR SO_2 Group 2 allowances available for use for a control period in a given year in complying with the source's TR SO_2 Group 2 emissions limitation in accordance with §§ 97.706 and 97.724.

Continuous emission monitoring system or *CEMS* means the equipment required under this subpart to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes and using an automated data acquisition and handling system (DAHS), a permanent record of SO_2 emissions, stack gas volumetric flow rate, stack gas moisture content, and O_2 or CO_2 concentration (as applicable), in a manner consistent with part 75 of this chapter and §§ 97.730 through 97.735. The following systems are the principal types of continuous emission monitoring systems:

(1) A flow monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and

handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);

(2) A SO_2 monitoring system, consisting of a SO_2 pollutant concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of SO_2 emissions, in parts per million (ppm);

(3) A moisture monitoring system, as defined in §75.11(b)(2) of this chapter and providing a permanent, continuous record of the stack gas moisture content, in percent H_2O;

(4) A CO_2 monitoring system, consisting of a CO_2 pollutant concentration monitor (or an O_2 monitor plus suitable mathematical equations from which the CO_2 concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of CO_2 emissions, in percent CO_2; and

(5) An O_2 monitoring system, consisting of an O_2 concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O_2, in percent O_2.

Control period means the period starting January 1 of a calendar year, except as provided in §97.706(c)(3), and ending on December 31 of the same year, inclusive.

Designated representative means, for a TR SO_2 Group 2 source and each TR SO_2 Group 2 unit at the source, the natural person who is authorized by the owners and operators of the source and all such units at the source, in accordance with this subpart, to represent and legally bind each owner and operator in matters pertaining to the TR SO_2 Group 2 Trading Program. If the TR SO_2 Group 2 source is also subject to the Acid Rain Program, TR NO_X Annual Trading Program, or TR NO_X Ozone Season Trading Program, then this natural person shall be the same natural person as the designated representative, as defined in the respective program.

Emissions means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the Administrator by the designated representative, and as modified by the Administrator:

(1) In accordance with this subpart; and

(2) With regard to a period before the unit or source is required to measure, record, and report such air pollutants in accordance with this subpart, in accordance with part 75 of this chapter.

Excess emissions means any ton of emissions from the TR SO_2 Group 2 units at a TR SO_2 Group 2 source during a control period in a given year that exceeds the TR SO_2 Group 2 emissions limitation for the source for such control period.

Fossil fuel means—

(1) Natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material; or

(2) For purposes of applying the limitation on ''average annual fuel consumption of fossil fuel'' in §§97.704(b)(2)(i)(B) and (ii), natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat.

Fossil-fuel-fired means, with regard to a unit, combusting any amount of fossil fuel in 2005 or any calendar year thereafter.

General account means an Allowance Management System account, established under this subpart, that is not a compliance account or an assurance account.

Generator means a device that produces electricity.

Gross electrical output means, for a unit, electricity made available for use, including any such electricity used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Heat input means, for a unit for a specified period of time, the product (in mmBtu/time) of the gross calorific value of the fuel (in mmBtu/lb) fed into the unit multiplied by the fuel feed rate (in lb of fuel/time), as measured, recorded, and reported to the Administrator by the designated representative and as modified by the Administrator in accordance with this subpart and excluding the heat derived from

preheated combustion air, recirculated flue gases, or exhaust.

Heat input rate means, for a unit, the amount of heat input (in mmBtu) divided by unit operating time (in hr) or, for a unit and a specific fuel, the amount of heat input attributed to the fuel (in mmBtu) divided by the unit operating time (in hr) during which the unit combusts the fuel.

Heat rate means, for a unit, the unit's maximum design heat input (in Btu/hr), divided by the product of 1,000,000 Btu/mmBtu and the unit's maximum hourly load.

Indian country means ''Indian country'' as defined in 18 U.S.C. 1151.

Life-of-the-unit, firm power contractual arrangement means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period no less than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

Maximum design heat input means, for a unit, the maximum amount of fuel per hour (in Btu/hr) that the unit is capable of combusting on a steady state basis as of the initial installation of the unit as specified by the manufacturer of the unit.

Monitoring system means any monitoring system that meets the requirements of this subpart, including a continuous emission monitoring system, an alternative monitoring system, or an excepted monitoring system under part 75 of this chapter.

Nameplate capacity means, starting from the initial installation of a generator, the maximum electrical generating output (in MWe, rounded to the nearest tenth) that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings) as of such installation as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output that the generator is capable of producing on a steady state basis and during continuous operation (when not restricted by seasonal or other deratings), such increased maximum amount (in MWe, rounded to the nearest tenth) as of such completion as specified by the person conducting the physical change.

Natural gas means ''natural gas'' as defined in § 72.2 of this chapter.

Newly affected TR SO_2 Group 2 unit means a unit that was not a TR SO_2 Group 2 unit when it began operating but that thereafter becomes a TR SO_2 Group 2 unit.

Operate or *operation* means, with regard to a unit, to combust fuel.

Operator means, for a TR SO_2 Group 2 source or a TR SO_2 Group 2 unit at a source respectively, any person who operates, controls, or supervises a TR SO_2 Group 2 unit at the source or the TR SO_2 Group 2 unit and shall include, but not be limited to, any holding company, utility system, or plant manager of such source or unit.

Owner means, for a TR SO_2 Group 2 source or a TR SO_2 Group 2 unit at a source respectively, any of the following persons:

(1) Any holder of any portion of the legal or equitable title in a TR SO_2 Group 2 unit at the source or the TR SO_2 Group 2 unit;

(2) Any holder of a leasehold interest in a TR SO_2 Group 2 unit at the source or the TR SO_2 Group 2 unit, provided that, unless expressly provided for in a leasehold agreement, ''owner'' shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based (either directly or indirectly) on the revenues or income from such TR SO_2 Group 2 unit; and

(3) Any purchaser of power from a TR SO_2 Group 2 unit at the source or the TR SO_2 Group 2 unit under a life-of-

the-unit, firm power contractual arrangement.

Permanently retired means, with regard to a unit, a unit that is unavailable for service and that the unit's owners and operators do not expect to return to service in the future.

Permitting authority means ''permitting authority'' as defined in §§ 70.2 and 71.2 of this chapter.

Potential electrical output capacity means, for a unit, 33 percent of the unit's maximum design heat input, divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

Receive or *receipt of* means, when referring to the Administrator, to come into possession of a document, information, or correspondence (whether sent in hard copy or by authorized electronic transmission), as indicated in an official log, or by a notation made on the document, information, or correspondence, by the Administrator in the regular course of business.

Recordation, record, or *recorded* means, with regard to TR SO_2 Group 2 allowances, the moving of TR SO_2 Group 2 allowances by the Administrator into, out of, or between Allowance Management System accounts, for purposes of allocation, auction, transfer, or deduction.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in § 75.22 of this chapter.

Replacement, replace, or *replaced* means, with regard to a unit, the demolishing of a unit, or the permanent retirement and permanent disabling of a unit, and the construction of another unit (the replacement unit) to be used instead of the demolished or retired unit (the replaced unit).

Sequential use of energy means:

(1) The use of reject heat from electricity production in a useful thermal energy application or process; or

(2) The use of reject heat from useful thermal energy application or process in electricity production.

Serial number means, for a TR SO_2 Group 2 allowance, the unique identification number assigned to each TR SO_2 Group 2 allowance by the Administrator.

Solid waste incineration unit means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine that is a ''solid waste incineration unit'' as defined in section 129(g)(1) of the Clean Air Act.

Source means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons. This definition does not change or otherwise affect the definition of ''major source'', ''stationary source'', or ''source'' as set forth and implemented in a title V operating permit program or any other program under the Clean Air Act.

State means one of the States that is subject to the TR SO_2 Group 2 Trading Program pursuant to § 52.39(a), (c), (g), (h), and (i) of this chapter.

Submit or *serve* means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

(1) In person;

(2) By United States Postal Service; or

(3) By other means of dispatch or transmission and delivery;

(4) Provided that compliance with any ''submission'' or ''service'' deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

Topping-cycle unit means a unit in which the energy input to the unit is first used to produce useful power, including electricity, where at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

Total energy input means, for a unit, total energy of all forms supplied to the unit, excluding energy produced by the unit. Each form of energy supplied shall be measured by the lower heating value of that form of energy calculated as follows:

$$LHV = HHV - 10.55(W + 9H)$$

where:

LHV = lower heating value of the form of energy in Btu/lb,

HHV = higher heating value of the form of energy in Btu/lb,

W = weight % of moisture in the form of energy, and

H = weight % of hydrogen in the form of energy.

Total energy output means, for a unit, the sum of useful power and useful thermal energy produced by the unit.

TR NO_X Annual Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart AAAAA of this part and § 52.38(a) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(a)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(a)(5) of this chapter), as a means of mitigating interstate transport of fine particulates and NO_X.

TR NO_X Ozone Season Trading Program means a multi-state NO_X air pollution control and emission reduction program established in accordance with subpart BBBBB of this part and § 52.38(b) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.38(b)(3) or (4) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.38(b)(5) of this chapter), as a means of mitigating interstate transport of ozone and NO_X.

TR SO_2 Group 2 allowance means a limited authorization issued and allocated or auctioned by the Administrator under this subpart, or by a State or permitting authority under a SIP revision approved by the Administrator under § 52.39(g), (h), or (i) of this chapter, to emit one ton of SO_2 during a control period of the specified calendar year for which the authorization is allocated or auctioned or of any calendar year thereafter under the TR SO_2 Group 2 Trading Program.

TR SO_2 Group 2 allowance deduction or *deduct TR SO_2* Group 2 allowances means the permanent withdrawal of TR SO_2 Group 2 allowances by the Administrator from a compliance account (*e.g.*, in order to account for compliance with the TR SO_2 Group 2 emissions limitation) or from an assurance account (*e.g.*, in order to account for compliance with the assurance provisions under §§ 97.706 and 97.725).

TR SO_2 Group 2 allowances held or *hold TR SO_2* Group 2 allowances means the TR SO_2 Group 2 allowances treated as included in an Allowance Management System account as of a specified point in time because at that time they:

(1) Have been recorded by the Administrator in the account or transferred into the account by a correctly submitted, but not yet recorded, TR SO_2 Group 2 allowance transfer in accordance with this subpart; and

(2) Have not been transferred out of the account by a correctly submitted, but not yet recorded, TR SO_2 Group 2 allowance transfer in accordance with this subpart.

TR SO_2 Group 2 emissions limitation means, for a TR SO_2 Group 2 source, the tonnage of SO_2 emissions authorized in a control period by the TR SO_2 Group 2 allowances available for deduction for the source under § 97.724(a) for such control period.

TR SO_2 Group 2 source means a source that includes one or more TR SO_2 Group 2 units.

TR SO_2 Group 2 Trading Program means a multi-state SO_2 air pollution control and emission reduction program established in accordance with this subpart and § 52.39(a), (c), and (g) through (k) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under § 52.39(g) or (h) of this chapter or that is established in a SIP revision approved by the Administrator under § 52.39(i) of this chapter), as a means of mitigating interstate transport of fine particulates and SO_2.

TR SO_2 Group 2 unit means a unit that is subject to the TR SO_2 Group 2 Trading Program under § 97.704.

Unit means a stationary, fossil-fuel-fired boiler, stationary, fossil-fuel-fired combustion turbine, or other stationary, fossil-fuel-fired combustion device. A unit that undergoes a physical change or is moved to a different location or source shall continue to be treated as the same unit. A unit (the replaced unit) that is replaced by another unit (the replacement unit) at the same or a different source shall continue to be treated as the same unit, and the replacement unit shall be treated as a separate unit.

Unit operating day means, with regard to a unit, a calendar day in which the unit combusts any fuel.

Unit operating hour or hour of unit operation means, with regard to a unit, an hour in which the unit combusts any fuel.

Useful power means, with regard to a unit, electricity or mechanical energy that the unit makes available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Useful thermal energy means thermal energy that is:

(1) Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;

(2) Used in a heating application (*e.g.*, space heating or domestic hot water heating); or

(3) Used in a space cooling application (*i.e.*, in an absorption chiller).

Utility power distribution system means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.

§ 97.703 Measurements, abbreviations, and acronyms.

Measurements, abbreviations, and acronyms used in this subpart are defined as follows:

Btu—British thermal unit
CO_2—carbon dioxide
H_2O—water
hr—hour
kW—kilowatt electrical
kWh—kilowatt hour
lb—pound
mmBtu—million Btu
MWe—megawatt electrical
MWh—megawatt hour
NO_X—nitrogen oxides
O_2—oxygen
ppm—parts per million
scfh—standard cubic feet per hour
SO_2—sulfur dioxide
yr—year

§ 97.704 Applicability.

(a) Except as provided in paragraph (b) of this section:

(1) The following units in a State (and Indian country within the borders of such State) shall be TR SO_2 Group 2 units, and any source that includes one or more such units shall be a TR SO_2 Group 2 source, subject to the requirements of this subpart: Any stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine serving at any time, on or after January 1, 2005, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

(2) If a stationary boiler or stationary combustion turbine that, under paragraph (a)(1) of this section, is not a TR SO_2 Group 2 unit begins to combust fossil fuel or to serve a generator with nameplate capacity of more than 25 MWe producing electricity for sale, the unit shall become a TR SO_2 Group 2 unit as provided in paragraph (a)(1) of this section on the first date on which it both combusts fossil fuel and serves such generator.

(b) Any unit in a State (and Indian country within the borders of such State) that otherwise is a TR SO_2 Group 2 unit under paragraph (a) of this section and that meets the requirements set forth in paragraph (b)(1)(i) or (2)(i) of this section shall not be a TR SO_2 Group 2 unit:

(1)(i) Any unit:

(A) Qualifying as a cogeneration unit throughout the later of 2005 or the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a cogeneration unit throughout each calendar year ending after the later of 2005 or such 12-month period; and

(B) Not supplying in 2005 or any calendar year thereafter more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

(ii) If, after qualifying under paragraph (b)(1)(i) of this section as not being a TR SO_2 Group 2 unit, a unit subsequently no longer meets all the requirements of paragraph (b)(1)(i) of this section, the unit shall become a TR SO_2 Group 2 unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a cogeneration unit or January 1 after the first calendar year during which the unit no longer meets the requirements of paragraph (b)(1)(i)(B) of this section. The

unit shall thereafter continue to be a TR SO_2 Group 2 unit.

(2)(i) Any unit:

(A) Qualifying as a solid waste incineration unit throughout the later of 2005 or the 12-month period starting on the date the unit first produces electricity and continuing to qualify as a solid waste incineration unit throughout each calendar year ending after the later of 2005 or such 12-month period; and

(B) With an average annual fuel consumption of fossil fuel for the first 3 consecutive calendar years of operation starting no earlier than 2005 of less than 20 percent (on a Btu basis) and an average annual fuel consumption of fossil fuel for any 3 consecutive calendar years thereafter of less than 20 percent (on a Btu basis).

(ii) If, after qualifying under paragraph (b)(2)(i) of this section as not being a TR SO_2 Group 2 unit, a unit subsequently no longer meets all the requirements of paragraph (b)(1)(i) of this section, the unit shall become a TR SO_2 Group 2 unit starting on the earlier of January 1 after the first calendar year during which the unit first no longer qualifies as a solid waste incineration unit or January 1 after the first 3 consecutive calendar years after 2005 for which the unit has an average annual fuel consumption of fossil fuel of 20 percent or more. The unit shall thereafter continue to be a TR SO_2 Group 2 unit.

(c) A certifying official of an owner or operator of any unit or other equipment may submit a petition (including any supporting documents) to the Administrator at any time for a determination concerning the applicability, under paragraphs (a) and (b) of this section or a SIP revision approved under § 52.39(h) or (i) of this chapter, of the TR SO_2 Group 2 Trading Program to the unit or other equipment.

(1) Petition content. The petition shall be in writing and include the identification of the unit or other equipment and the relevant facts about the unit or other equipment. The petition and any other documents provided to the Administrator in connection with the petition shall include the following certification statement, signed by the certifying official: ''I am authorized to make this submission on behalf of the owners and operators of the unit or other equipment for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) Response. The Administrator will issue a written response to the petition and may request supplemental information determined by the Administrator to be relevant to such petition. The Administrator's determination concerning the applicability, under paragraphs (a) and (b) of this section, of the TR SO_2 Group 2 Trading Program to the unit or other equipment shall be binding on any State or permitting authority unless the Administrator determines that the petition or other documents or information provided in connection with the petition contained significant, relevant errors or omissions.

§ 97.705 Retired unit exemption.

(a)(1) Any TR SO_2 Group 2 unit that is permanently retired shall be exempt from § 97.706(b) and (c)(1), § 97.724, and §§ 97.730 through 97.735.

(2) The exemption under paragraph (a)(1) of this section shall become effective the day on which the TR SO_2 Group 2 unit is permanently retired. Within 30 days of the unit's permanent retirement, the designated representative shall submit a statement to the Administrator. The statement shall state, in a format prescribed by the Administrator, that the unit was permanently retired on a specified date and will comply with the requirements of paragraph (b) of this section.

(b) Special provisions. (1) A unit exempt under paragraph (a) of this section shall not emit any SO_2, starting

on the date that the exemption takes effect.

(2) For a period of 5 years from the date the records are created, the owners and operators of a unit exempt under paragraph (a) of this section shall retain, at the source that includes the unit, records demonstrating that the unit is permanently retired. The 5-year period for keeping records may be extended for cause, at any time before the end of the period, in writing by the Administrator. The owners and operators bear the burden of proof that the unit is permanently retired.

(3) The owners and operators and, to the extent applicable, the designated representative of a unit exempt under paragraph (a) of this section shall comply with the requirements of the TR SO_2 Group 2 Trading Program concerning all periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

(4) A unit exempt under paragraph (a) of this section shall lose its exemption on the first date on which the unit resumes operation. Such unit shall be treated, for purposes of applying allocation, monitoring, reporting, and recordkeeping requirements under this subpart, as a unit that commences commercial operation on the first date on which the unit resumes operation.

§ 97.706 Standard requirements.

(a) *Designated representative requirements.* The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with §§ 97.713 through 97.718.

(b) *Emissions monitoring, reporting, and recordkeeping requirements.* (1) The owners and operators, and the designated representative, of each TR SO_2 Group 2 source and each TR SO_2 Group 2 unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of §§ 97.730 through 97.735.

(2) The emissions data determined in accordance with §§ 97.730 through 97.735 shall be used to calculate allocations of TR SO_2 Group 2 allowances under §§ 97.711(a)(2) and (b) and 97.712 and to determine compliance with the TR SO_2 Group 2 emissions limitation and assurance provisions under paragraph (c) of this section, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with §§ 97.730 through 97.735 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

(c) *SO_2 emissions requirements.* (1) TR SO_2 Group 2 emissions limitation. (i) As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR SO_2 Group 2 source and each TR SO_2 Group 2 unit at the source shall hold, in the source's compliance account, TR SO_2 Group 2 allowances available for deduction for such control period under § 97.724(a) in an amount not less than the tons of total SO_2 emissions for such control period from all TR SO_2 Group 2 units at the source.

(ii) If total SO_2 emissions during a control period in a given year from the TR SO_2 Group 2 units at a TR SO_2 Group 2 source are in excess of the TR SO_2 Group 2 emissions limitation set forth in paragraph (c)(1)(i) of this section, then:

(A) The owners and operators of the source and each TR SO_2 Group 2 unit at the source shall hold the TR SO_2 Group 2 allowances required for deduction under § 97.724(d); and

(B) The owners and operators of the source and each TR SO_2 Group 2 unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart and the Clean Air Act.

(2) TR SO_2 Group 2 assurance provisions. (i) If total SO_2 emissions during a control period in a given year from all TR SO_2 Group 2 units at TR SO_2 Group 2 sources in a State (and Indian country within the borders of such State) exceed the State assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a

common designated representative for such control period, where the common designated representative's share of such SO_2 emissions during such control period exceeds the common designated representative's assurance level for the State and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR SO_2 Group 2 allowances available for deduction for such control period under § 97.725(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with § 97.725(b), of multiplying—

(A) The quotient of the amount by which the common designated representative's share of such SO_2 emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the State (and Indian country within the borders of such State) for such control period, by which each common designated representative's share of such SO_2 emissions exceeds the respective common designated representative's assurance level; and

(B) The amount by which total SO_2 emissions from all TR SO_2 Group 2 units at TR SO_2 Group 2 sources in the State (and Indian country within the borders of such State) for such control period exceed the State assurance level.

(ii) The owners and operators shall hold the TR SO_2 Group 2 allowances required under paragraph (c)(2)(i) of this section, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.

(iii) Total SO_2 emissions from all TR SO_2 Group 2 units at TR SO_2 Group 2 sources in a State (and Indian country within the borders of such State) during a control period in a given year exceed the State assurance level if such total SO_2 emissions exceed the sum, for such control period, of the State SO_2 Group 2 trading budget under § 97.710(a) and the State's variability limit under § 97.710(b).

(iv) It shall not be a violation of this subpart or of the Clean Air Act if total SO_2 emissions from all TR SO_2 Group 2 units at TR SO_2 Group 2 sources in a State (and Indian country within the borders of such State) during a control period exceed the State assurance level or if a common designated representative's share of total SO_2 emissions from the TR SO_2 Group 2 units at TR SO_2 Group 2 sources in a State (and Indian country within the borders of such State) during a control period exceeds the common designated representative's assurance level.

(v) To the extent the owners and operators fail to hold TR SO_2 Group 2 allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) of this section,

(A) The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and

(B) Each TR SO_2 Group 2 allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) of this section and each day of such control period shall constitute a separate violation of this subpart and the Clean Air Act.

(3) *Compliance periods.* (i) A TR SO_2 Group 2 unit shall be subject to the requirements under paragraph (c)(1) of this section for the control period starting on the later of January 1, 2015 or the deadline for meeting the unit's monitor certification requirements under § 97.730(b) and for each control period thereafter.

(ii) A TR SO_2 Group 2 unit shall be subject to the requirements under paragraph (c)(2) of this section for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under § 97.730(b) and for each control period thereafter.

(4) Vintage of allowances held for compliance. (i) A TR SO_2 Group 2 allowance held for compliance with the requirements under paragraph (c)(1)(i) of this section for a control period in a given year must be a TR SO_2 Group 2 allowance that was allocated for such control period or a control period in a prior year.

(ii) A TR SO_2 Group 2 allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) of this section for a control period in a given year must be a TR SO_2 Group 2 allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.

(5) Allowance Management System requirements. Each TR SO_2 Group 2 allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with this subpart.

(6) Limited authorization. A TR SO_2 Group 2 allowance is a limited authorization to emit one ton of SO_2 during the control period in one year. Such authorization is limited in its use and duration as follows:

(i) Such authorization shall only be used in accordance with the TR SO_2 Group 2 Trading Program; and

(ii) Notwithstanding any other provision of this subpart, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.

(7) Property right. A TR SO_2 Group 2 allowance does not constitute a property right.

(d) *Title V permit requirements.* (1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR SO_2 Group 2 allowances in accordance with this subpart.

(2) A description of whether a unit is required to monitor and report SO_2 emissions using a continuous emission monitoring system (under subpart H of part 75 of this chapter), an excepted monitoring system (under appendices D and E to part 75 of this chapter), a low mass emissions excepted monitoring methodology (under § 75.19 of this chapter), or an alternative monitoring system (under subpart E of part 75 of this chapter) in accordance with §§ 97.730 through 97.735 may be added to, or changed in, a title V permit using minor permit modification procedures in accordance with §§ 70.7(e)(2) and 71.7(e)(1) of this chapter, provided that the requirements applicable to the described monitoring and reporting (as added or changed, respectively) are already incorporated in such permit. This paragraph explicitly provides that the addition of, or change to, a unit's description as described in the prior sentence is eligible for minor permit modification procedures in accordance with §§ 70.7(e)(2)(i)(B) and 71.7(e)(1)(i)(B) of this chapter.

(e) *Additional recordkeeping and reporting requirements.* (1) Unless otherwise provided, the owners and operators of each TR SO_2 Group 2 source and each TR SO_2 Group 2 unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.

(i) The certificate of representation under § 97.716 for the designated representative for the source and each TR SO_2 Group 2 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under § 97.716 changing the designated representative.

(ii) All emissions monitoring information, in accordance with this subpart.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR SO_2 Group 2 Trading Program.

(2) The designated representative of a TR SO_2 Group 2 source and each TR SO_2 Group 2 unit at the source shall make all submissions required under the TR SO_2 Group 2 Trading Program, except as provided in § 97.718. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating

permit program in parts 70 and 71 of this chapter.

(f) *Liability*. (1) Any provision of the TR SO_2 Group 2 Trading Program that applies to a TR SO_2 Group 2 source or the designated representative of a TR SO_2 Group 2 source shall also apply to the owners and operators of such source and of the TR SO_2 Group 2 units at the source.

(2) Any provision of the TR SO_2 Group 2 Trading Program that applies to a TR SO_2 Group 2 unit or the designated representative of a TR SO_2 Group 2 unit shall also apply to the owners and operators of such unit.

(g) *Effect on other authorities*. No provision of the TR SO_2 Group 2 Trading Program or exemption under § 97.705 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR SO_2 Group 2 source or TR SO_2 Group 2 unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

[76 FR 48458, Aug. 8, 2011, as amended at 77 FR 10340, Feb. 21, 2012; 79 FR 71672, Dec. 3, 2014]

§ 97.707 Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the TR SO_2 Group 2 Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the TR SO_2 Group 2 Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the TR SO_2 Group 2 Trading Program, is not a business day, the time period shall be extended to the next business day.

§ 97.708 Administrative appeal procedures.

The administrative appeal procedures for decisions of the Administrator under the TR SO_2 Group 2 Trading Program are set forth in part 78 of this chapter.

§ 97.709 [Reserved]

§ 97.710 State SO_2 Group 2 trading budgets, new unit set-asides, Indian country new unit set-aside, and variability limits.

(a) The State SO_2 trading budgets, new unit set-asides, and Indian country new unit-set asides for allocations of TR SO_2 Group 2 allowances for the control periods in 2015 and thereafter are as follows:

(1) *Alabama*. (i) The SO_2 trading budget for 2015 and 2016 is 216,033 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 4,321 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 213,258 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 4,265 tons.

(vi) [Reserved]

(2) *Georgia*. (i) The SO_2 trading budget for 2015 and 2016 is 158,527 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 3,171 tons.

(iii) [Reserved]

(iv) The SO_2 trading budget for 2017 and thereafter is 135,565 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 2,711 tons.

(vi) [Reserved]

(3) *Kansas*. (i) The SO_2 trading budget for 2015 and 2016 is 41,980 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 798 tons.

(iii) The SO_2 Indian country new unit set-aside for 2015 and 2016 is 42 tons.

(iv) The SO_2 trading budget for 2017 and thereafter is 41,980 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 798 tons.

(vi) The SO_2 Indian country new unit set-aside for 2017 and thereafter is 42 tons.

(4) *Minnesota*. (i) The SO_2 trading budget for 2015 and 2016 is 41,981 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 798 tons.

(iii) The SO_2 Indian country new unit set-aside for 2015 and 2016 is 42 tons.

(iv) The SO_2 trading budget for 2017 and thereafter is 41,981 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 798 tons.

(vi) The SO_2 Indian country new unit set-aside for 2017 and thereafter is 42 tons.

(5) *Nebraska.* (i) The SO_2 trading budget for 2015 and 2016 is 68,162 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 2,658 tons.

(iii) The SO_2 Indian country new unit set-aside for 2015 and 2016 is 68 tons.

(iv) The SO_2 trading budget for 2017 and thereafter is 68,162 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 2,658 tons.

(vi) The SO_2 Indian country new unit set-aside for 2017 and thereafter is 68 tons.

(6) *South Carolina.* (i) The SO_2 trading budget for 2015 and 2016 is 96,633 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 1,836 tons.

(iii) The SO_2 Indian country new unit set-aside for 2015 and 2016 is 97 tons.

(iv) The SO_2 trading budget for 2017 and thereafter is 96,633 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 1,836 tons.

(vi) The SO_2 Indian country new unit set-aside for 2017 and thereafter is 97 tons.

(7) *Texas.* (i) The SO_2 trading budget for 2015 and 2016 is 294,471 tons.

(ii) The SO_2 new unit set-aside for 2015 and 2016 is 14,430 tons.

(iii) The SO_2 Indian country new unit set-aside for 2015 and 2016 is 294 tons.

(iv) The SO_2 trading budget for 2017 and thereafter is 294,471 tons.

(v) The SO_2 new unit set-aside for 2017 and thereafter is 14,430 tons.

(vi) The SO_2 Indian country new unit set-aside for 2017 and thereafter is 294 tons.

(b) The States' variability limits for the State SO_2 Group 2 trading budgets for the control periods in 2017 and thereafter are as follows:

(1) The SO_2 variability limit for Alabama is 38,386 tons.

(2) The SO_2 variability limit for Georgia is 24,402 tons.

(3) The SO_2 variability limit for Kansas is 7,556 tons.

(4) The SO_2 variability limit for Minnesota is 7,557 tons.

(5) The SO_2 variability limit for Nebraska is 12,269 tons.

(6) The SO_2 variability limit for South Carolina is 17,394 tons.

(7) The SO_2 variability limit for Texas is 53,005 tons.

(c) Each SO_2 Group 2 trading budget in this section includes any tons identified under a new unit set aside or Indian country new unit set aside, but excludes any tons in a variability limit.

[77 FR 10340, Feb. 21, 2012, as amended at 77 FR 10349, Feb. 21, 2012; 77 FR 34846, June 12, 2012; 79 FR 71672, Dec. 3, 2014]

§ 97.711 Timing requirements for TR SO_2 Group 2 allowance allocations.

(a) *Existing units.* (1) TR SO_2 Group 2 allowances are allocated, for the control periods in 2015 and each year thereafter, as provided in a notice of data availability issued by the Administrator. Providing an allocation to a unit in such notice does not constitute a determination that the unit is a TR SO_2 Group 2 unit, and not providing an allocation to a unit in such notice does not constitute a determination that the unit is not a TR SO_2 Group 2 unit.

(2) Notwithstanding paragraph (a)(1) of this section, if a unit provided an allocation in the notice of data availability issued under paragraph (a)(1) of this section does not operate, starting after 2014, during the control period in two consecutive years, such unit will not be allocated the TR SO_2 Group 2 allowances provided in such notice for the unit for the control periods in the fifth year after the first such year and in each year after that fifth year. All TR SO_2 Group 2 allowances that would otherwise have been allocated to such unit will be allocated to the new unit set-aside for the State where such unit is located and for the respective years involved. If such unit resumes operation, the Administrator will allocate TR SO_2 Group 2 allowances to the unit in accordance with paragraph (b) of this section.

(b) *New units.* (1) New unit set-asides. (i) By June 1, 2015 and June 1 of each year thereafter, the Administrator will calculate the TR SO_2 Group 2 allowance allocation to each TR SO_2 Group 2 unit in a State, in accordance with § 97.712(a)(2) through (7) and (12), for the control period in the year of the applicable calculation deadline under this paragraph and will promulgate a notice

of data availability of the results of the calculations.

(ii) For each notice of data availability required in paragraph (b)(1)(i) of this section, the Administrator will provide an opportunity for submission of objections to the calculations referenced in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(1)(i) of this section and shall be limited to addressing whether the calculations (including the identification of the TR SO_2 Group 2 units) are in accordance with §97.712(a)(2) through (7) and (12) and §§97.706(b)(2) and 97.730 through 97.735.

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(1)(ii)(A) of this section. By August 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(1)(i) of this section, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary with regard to allocations under §97.712(a)(2) through (7) and (12) and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(1)(ii)(A) of this section.

(iii) If the new unit set-aside for such control period contains any TR SO_2 Group 2 allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(1)(ii) of this section, the Administrator will promulgate, by December 15 immediately after such notice, a notice of data availability that identifies any TR SO_2 Group 2 units that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of year of such control period.

(iv) For each notice of data availability required in paragraph (b)(1)(iii) of this section, the Administrator will provide an opportunity for submission of objections to the identification of TR SO_2 annual units in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(1)(iii) of this section and shall be limited to addressing whether the identification of TR SO_2 annual units in such notice is in accordance with paragraph (b)(1)(iii) of this section.

(B) The Administrator will adjust the identification of TR SO_2 Group 2 units in the each notice of data availability required in paragraph (b)(1)(iii) of this section to the extent necessary to ensure that it is in accordance with paragraph (b)(1)(iii) of this section and will calculate the TR SO_2 Group 2 allowance allocation to each TR SO_2 Group 2 unit in accordance with §97.712(a)(9), (10), and (12) and §§97.706(b)(2) and 97.730 through 97.735. By February 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(1)(iii) of this section, the Administrator will promulgate a notice of data availability of any adjustments of the identification of TR SO_2 Group 2 units that the Administrator determines to be necessary, the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(1)(iv)(A) of this section, and the results of such calculations.

(v) To the extent any TR SO_2 Group 2 allowances are added to the new unit set-aside after promulgation of each notice of data availability required in paragraph (b)(1)(iv) of this section, the Administrator will promulgate additional notices of data availability, as deemed appropriate, of the allocation of such TR SO_2 Group 2 allowances in accordance with §97.712(a)(10).

(2) Indian country new unit set-asides. (i) By June 1, 2015 and June 1 of each year thereafter, the Administrator will calculate the TR SO_2 Group 2 allowance allocation to each TR SO_2 Group 2 unit in Indian country within the borders of a State, in accordance with §97.712(b)(2) through (7) and (12), for the control period in the year of the applicable calculation deadline under this paragraph and will promulgate a notice of data availability of the results of the calculations.

(ii) For each notice of data availability required in paragraph (b)(2)(i) of this section, the Administrator will provide an opportunity for submission

of objections to the calculations referenced in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(2)(i) of this section and shall be limited to addressing whether the calculations (including the identification of the TR SO_2 Group 2 units) are in accordance with § 97.712(b)(2) through (7) and (12) and §§ 97.706(b)(2) and 97.730 through 97.735.

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(2)(ii)(A) of this section. By August 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(i) of this section, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary with regard to allocations under § 97.712(b)(2) through (7) and (12) and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(ii)(A) of this section.

(iii) If the Indian country new unit set-aside for such control period contains any TR SO_2 Group 2 allowances that have not been allocated in the applicable notice of data availability required in paragraph (b)(2)(ii) of this section, the Administrator will promulgate, by December 15 immediately after such notice, a notice of data availability that identifies any TR SO_2 Group 2 units that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of year of such control period.

(iv) For each notice of data availability required in paragraph (b)(2)(iii) of this section, the Administrator will provide an opportunity for submission of objections to the identification of TR SO_2 annual units in such notice.

(A) Objections shall be submitted by the deadline specified in each notice of data availability required in paragraph (b)(2)(iii) of this section and shall be limited to addressing whether the identification of TR SO_2 annual units in such notice is in accordance with paragraph (b)(2)(iii) of this section.

(B) The Administrator will adjust the identification of TR SO_2 Group 2 units in the each notice of data availability required in paragraph (b)(2)(iii) of this section to the extent necessary to ensure that it is in accordance with paragraph (b)(2)(iii) of this section and will calculate the TR SO_2 Group 2 allowance allocation to each TR SO_2 Group 2 unit in accordance with § 97.712(b)(9), (10), and (12) and §§ 97.706(b)(2) and 97.730 through 97.735. By February 15 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii) of this section, the Administrator will promulgate a notice of data availability of any adjustments of the identification of TR SO_2 Group 2 units that the Administrator determines to be necessary, the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(iv)(A) of this section, and the results of such calculations.

(v) To the extent any TR SO_2 Group 2 allowances are added to the Indian country new unit set-aside after promulgation of each notice of data availability required in paragraph (b)(2)(iv) of this section, the Administrator will promulgate additional notices of data availability, as deemed appropriate, of the allocation of such TR SO_2 Group 2 allowances in accordance with § 97.712(b)(10).

(c) *Units incorrectly allocated TR SO_2* Group 2 allowances. (1) For each control period in 2015 and thereafter, if the Administrator determines that TR SO_2 Group 2 allowances were allocated under paragraph (a) of this section, or under a provision of a SIP revision approved § 52.39(g), (h), or (i) of this chapter, where such control period and the recipient are covered by the provisions of paragraph (c)(1)(i) of this section or were allocated under § 97.712(a)(2) through (7), (9), and (12) and (b)(2) through (7), (9), and (12), or under a provision of a SIP revision approved § 52.39(h) or (i) of this chapter, where such control period and the recipient are covered by the provisions of paragraph (c)(1)(ii) of this section, then the Administrator will notify the designated representative of the recipient

and will act in accordance with the procedures set forth in paragraphs (c)(2) through (5) of this section:

(i)(A) The recipient is not actually a TR SO_2 Group 2 unit under §97.704 as of January 1, 2015 and is allocated TR SO_2 Group 2 allowances for such control period or, in the case of an allocation under a provision of a SIP revision approved under §52.39(g), (h), or (i) of this chapter, the recipient is not actually a TR SO_2 Group 2 unit as of January 1, 2015 and is allocated TR SO_2 Group 2 allowances for such control period that the SIP revision provides should be allocated only to recipients that are TR SO_2 Group 2 units as of January 1, 2015; or

(B) The recipient is not located as of January 1 of the control period in the State from whose SO_2 Group 2 trading budget the TR SO_2 Group 2 allowances allocated under paragraph (a) of this section, or under a provision of a SIP revision approved under §52.39(g), (h), or (i) of this chapter, were allocated for such control period.

(ii) The recipient is not actually a TR SO_2 Group 2 unit under §97.704 as of January 1 of such control period and is allocated TR SO_2 Group 2 allowances for such control period or, in the case of an allocation under a provision of a SIP revision approved under §52.39(g), (h), or (i) of this chapter, the recipient is not actually a TR SO_2 Group 2 unit as of January 1 of such control period and is allocated TR SO_2 Group 2 allowances for such control period that the SIP revision provides should be allocated only to recipients that are TR SO_2 Group 2 units as of January 1 of such control period.

(2) Except as provided in paragraph (c)(3) or (4) of this section, the Administrator will not record such TR SO_2 Group 2 allowances under §97.721.

(3) If the Administrator already recorded such TR SO_2 Group 2 allowances under §97.721 and if the Administrator makes the determination under paragraph (c)(1) of this section before making deductions for the source that includes such recipient under §97.724(b) for such control period, then the Administrator will deduct from the account in which such TR SO_2 Group 2 allowances were recorded an amount of TR SO_2 Group 2 allowances allocated for the same or a prior control period equal to the amount of such already recorded TR SO_2 Group 2 allowances. The authorized account representative shall ensure that there are sufficient TR SO_2 Group 2 allowances in such account for completion of the deduction.

(4) If the Administrator already recorded such TR SO_2 Group 2 allowances under §97.721 and if the Administrator makes the determination under paragraph (c)(1) of this section after making deductions for the source that includes such recipient under §97.724(b) for such control period, then the Administrator will not make any deduction to take account of such already recorded TR SO_2 Group 2 allowances.

(5)(i) With regard to the TR SO_2 Group 2 allowances that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(i) of this section, the Administrator will:

(A) Transfer such TR SO_2 Group 2 allowances to the new unit set-aside for such control period for the State from whose SO_2 Group 2 trading budget the TR SO_2 Group 2 allowances were allocated; or

(B) If the State has a SIP revision approved under §52.39(h) or (i) covering such control period, include such TR SO_2 Group 2 allowances in the portion of the State SO_2 Group 2 trading budget that may be allocated for such control period in accordance with such SIP revision.

(ii) With regard to the TR SO_2 Group 2 allowances that were not allocated from the Indian country new unit set-aside for such control period and that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(ii) of this paragraph, the Administrator will:

(A) Transfer such TR SO_2 Group 2 allowances to the new unit set-aside for such control period; or

(B) If the State has a SIP revision approved under §52.39(h) or (i) covering such control period, include such TR SO_2 Group 2 allowances in the portion

of the State SO_2 Group 2 trading budget that may be allocated for such control period in accordance with such SIP revision.

(iii) With regard to the TR SO_2 Group 2 allowances that were allocated from the Indian country new unit set-aside for such control period and that are not recorded, or that are deducted as an incorrect allocation, in accordance with paragraphs (c)(2) and (3) of this section for a recipient under paragraph (c)(1)(ii) of this paragraph, the Administrator will transfer such TR SO_2 Group 2 allowances to the Indian country new unit set-aside for such control period.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.712 TR SO_2 Group 2 allowance allocations to new units.

(a) For each control period in 2015 and thereafter and for the TR SO_2 Group 2 units in each State, the Administrator will allocate TR SO_2 Group 2 allowances to the TR SO_2 Group 2 units as follows:

(1) The TR SO_2 Group 2 allowances will be allocated to the following TR SO_2 Group 2 units, except as provided in paragraph (a)(10) of this section:

(i) TR SO_2 Group 2 units that are not allocated an amount of TR SO_2 Group 2 allowances in the notice of data availability issued under § 97.711(a)(1);

(ii) TR SO_2 Group 2 units whose allocation of an amount of TR SO_2 Group 2 allowances for such control period in the notice of data availability issued under § 97.711(a)(1) is covered by § 97.711(c)(2) or (3);

(iii) TR SO_2 Group 2 units that are allocated an amount of TR SO_2 Group 2 allowances for such control period in the notice of data availability issued under § 97.711(a)(1), which allocation is terminated for such control period pursuant to § 97.711(a)(2), and that operate during the control period immediately preceding such control period; or

(iv) For purposes of paragraph (a)(9) of this section, TR SO_2 Group 2 units under § 97.711(c)(1)(ii) whose allocation of an amount of TR SO_2 Group 2 allowances for such control period in the notice of data availability issued under § 97.711(b)(1)(ii)(B) is covered by § 97.711(c)(2) or (3).

(2) The Administrator will establish a separate new unit set-aside for the State for each such control period. Each such new unit set-aside will be allocated TR SO_2 Group 2 allowances in an amount equal to the applicable amount of tons of SO_2 emissions as set forth in § 97.710(a) and will be allocated additional TR SO_2 Group 2 allowances (if any) in accordance with §§ 97.711(a)(2) and (c)(5) and paragraph (b)(10) of this section.

(3) The Administrator will determine, for each TR SO_2 Group 2 unit described in paragraph (a)(1) of this section, an allocation of TR SO_2 Group 2 allowances for the later of the following control periods and for each subsequent control period:

(i) The control period in 2015;

(ii) The first control period after the control period in which the TR SO_2 Group 2 unit commences commercial operation;

(iii) For a unit described in paragraph (a)(1)(ii) of this section, the first control period in which the TR SO_2 Group 2 unit operates in the State after operating in another jurisdiction and for which the unit is not already allocated one or more TR SO_2 Group 2 allowances; and

(iv) For a unit described in paragraph (a)(1)(iii) of this section, the first control period after the control period in which the unit resumes operation.

(4)(i) The allocation to each TR SO_2 annual unit described in paragraph (a)(1)(i) through (iii) of this section and for each control period described in paragraph (a)(3) of this section will be an amount equal to the unit's total tons of SO_2 emissions during the immediately preceding control period.

(ii) The Administrator will adjust the allocation amount in paragraph (a)(4)(i) in accordance with paragraphs (a)(5) through (7) and (12) of this section.

(5) The Administrator will calculate the sum of the TR SO_2 Group 2 allowances determined for all such TR SO_2 Group 2 units under paragraph (a)(4)(i) of this section in the State for such control period.

(6) If the amount of TR SO_2 Group 2 allowances in the new unit set-aside for the State for such control period is greater than or equal to the sum under

paragraph (a)(5) of this section, then the Administrator will allocate the amount of TR SO_2 Group 2 allowances determined for each such TR SO_2 Group 2 unit under paragraph (a)(4)(i) of this section.

(7) If the amount of TR SO_2 Group 2 allowances in the new unit set-aside for the State for such control period is less than the sum under paragraph (a)(5) of this section, then the Administrator will allocate to each such TR SO_2 Group 2 unit the amount of the TR SO_2 Group 2 allowances determined under paragraph (a)(4)(i) of this section for the unit, multiplied by the amount of TR SO_2 Group 2 allowances in the new unit set-aside for such control period, divided by the sum under paragraph (a)(5) of this section, and rounded to the nearest allowance.

(8) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.711(b)(1)(i) and (ii), of the amount of TR SO_2 Group 2 allowances allocated under paragraphs (a)(2) through (7) and (12) of this section for such control period to each TR SO_2 Group 2 unit eligible for such allocation.

(9) If, after completion of the procedures under paragraphs (a)(5) through (8) of this section for such control period, any unallocated TR SO_2 Group 2 allowances remain in the new unit set-aside for the State for such control period, the Administrator will allocate such TR SO_2 Group 2 allowances as follows—

(i) The Administrator will determine, for each unit described in paragraph (a)(1) of this section that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of TR SO_2 Group 2 allowances referenced in the notice of data availability required under § 97.711(b)(1)(ii) for the unit for such control period;

(ii) The Administrator will determine the sum of the positive differences determined under paragraph (a)(9)(i) of this section;

(iii) If the amount of unallocated TR SO_2 Group 2 allowances remaining in the new unit set-aside for the State for such control period is greater than or equal to the sum determined under paragraph (a)(9)(ii) of this section, then the Administrator will allocate the amount of TR SO_2 Group 2 allowances determined for each such TR SO_2 Group 2 unit under paragraph (a)(9)(i) of this section; and

(iv) If the amount of unallocated TR SO_2 Group 2 allowances remaining in the new unit set-aside for the State for such control period is less than the sum under paragraph (a)(9)(ii) of this section, then the Administrator will allocate to each such TR SO_2 Group 2 unit the amount of the TR SO_2 Group 2 allowances determined under paragraph (a)(9)(i) of this section for the unit, multiplied by the amount of unallocated TR SO_2 Group 2 allowances remaining in the new unit set-aside for such control period, divided by the sum under paragraph (a)(9)(ii) of this section, and rounded to the nearest allowance.

(10) If, after completion of the procedures under paragraphs (a)(9) and (12) of this section for such control period, any unallocated TR SO_2 Group 2 allowances remain in the new unit set-aside for the State for such control period, the Administrator will allocate to each TR SO_2 Group 2 unit that is in the State, is allocated an amount of TR SO_2 Group 2 allowances in the notice of data availability issued under § 97.711(a)(1), and continues to be allocated TR SO_2 Group 2 allowances for such control period in accordance with § 97.711(a)(2), an amount of TR SO_2 Group 2 allowances equal to the following: The total amount of such remaining unallocated TR SO_2 Group 2 allowances in such new unit set-aside, multiplied by the unit's allocation under § 97.711(a) for such control period, divided by the remainder of the amount of tons in the applicable State SO_2 Group 2 trading budget minus the sum of the amounts of tons in such new unit set-aside and the Indian country new unit set-aside for the State for such control period, and rounded to the nearest allowance.

(11) The Administrator will notify the public, through the promulgation

of the notices of data availability described in § 97.711(b)(1)(iii), (iv), and (v), of the amount of TR SO_2 Group 2 allowances allocated under paragraphs (a)(9), (10), and (12) of this section for such control period to each TR SO_2 Group 2 unit eligible for such allocation.

(12)(i) Notwithstanding the requirements of paragraphs (a)(2) through (11) of this section, if the calculations of allocations of a new unit set-aside for a control period in a given year under paragraph (a)(7) of this section, paragraphs (a)(6) and (9)(iv) of this section, or paragraphs (a)(6), (9)(iii), and (10) of this section would otherwise result in total allocations of such new unit set-aside exceeding the total amount of such new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (a)(7), (9)(iv), or (10) of this section, as applicable, as follows. The Administrator will list the TR SO_2 Group 2 units in descending order based on the amount of such units' allocations under paragraph (a)(7), (9)(iv), or (10) of this section, as applicable, and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will reduce each unit's allocation under paragraph (a)(7), (9)(iv), or (10) of this section, as applicable, by one TR SO_2 Group 2 allowance (but not below zero) in the order in which the units are listed and will repeat this reduction process as necessary, until the total allocations of such new unit set-aside equal the total amount of such new unit set-aside.

(ii) Notwithstanding the requirements of paragraphs (a)(10) and (11) of this section, if the calculations of allocations of a new unit set-aside for a control period in a given year under paragraphs (a)(6), (9)(iii), and (10) of this section would otherwise result in a total allocations of such new unit set-aside less than the total amount of such new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (a)(10) of this section, as follows. The Administrator will list the TR SO_2 Group 2 units in descending order based on the amount of such units' allocations under paragraph (a)(10) of this section and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will increase each unit's allocation under paragraph (a)(10) of this section by one TR SO_2 Group 2 allowance in the order in which the units are listed and will repeat this increase process as necessary, until the total allocations of such new unit set-aside equal the total amount of such new unit set-aside.

(b) For each control period in 2015 and thereafter and for the TR SO_2 Group 2 units located in Indian country within the borders of each State, the Administrator will allocate TR SO_2 Group 2 allowances to the TR SO_2 Group 2 units as follows:

(1) The TR SO_2 Group 2 allowances will be allocated to the following TR SO_2 Group 2 units, except as provided in paragraph (b)(10) of this section:

(i) TR SO_2 Group 2 units that are not allocated an amount of TR SO_2 Group 2 allowances in the notice of data availability issued under § 97.711(a)(1); or

(ii) For purposes of paragraph (b)(9) of this section, TR SO_2 Group 2 units under § 97.711(c)(1)(ii) whose allocation of an amount of TR SO_2 Group 2 allowances for such control period in the notice of data availability issued under § 97.711(b)(2)(ii)(B) is covered by § 97.711(c)(2) or (3).

(2) The Administrator will establish a separate Indian country new unit set-aside for the State for each such control period. Each such Indian country new unit set-aside will be allocated TR SO_2 Group 2 allowances in an amount equal to the applicable amount of tons of SO_2 emissions as set forth in § 97.710(a) and will be allocated additional TR SO_2 Group 2 allowances (if any) in accordance with § 97.711(c)(5).

(3) The Administrator will determine, for each TR SO_2 Group 2 unit described in paragraph (b)(1) of this section, an allocation of TR SO_2 Group 2 allowances for the later of the following control periods and for each subsequent control period:

(i) The control period in 2015; and

(ii) The first control period after the control period in which the TR SO_2 Group 2 unit commences commercial operation.

(4)(i) The allocation to each TR SO_2 annual unit described in paragraph (b)(1)(i) of this section and for each control period described in paragraph (b)(3) of this section will be an amount equal to the unit's total tons of SO_2 emissions during the immediately preceding control period.

(ii) The Administrator will adjust the allocation amount in paragraph (b)(4)(i) in accordance with paragraphs (b)(5) through (7) and (12) of this section.

(5) The Administrator will calculate the sum of the TR SO_2 Group 2 allowances determined for all such TR SO_2 Group 2 units under paragraph (b)(4)(i) of this section in Indian country within the borders of the State for such control period.

(6) If the amount of TR SO_2 Group 2 allowances in the Indian country new unit set-aside for the State for such control period is greater than or equal to the sum under paragraph (b)(5) of this section, then the Administrator will allocate the amount of TR SO_2 Group 2 allowances determined for each such TR SO_2 Group 2 unit under paragraph (b)(4)(i) of this section.

(7) If the amount of TR SO_2 Group 2 allowances in the Indian country new unit set-aside for the State for such control period is less than the sum under paragraph (b)(5) of this section, then the Administrator will allocate to each such TR SO_2 Group 2 unit the amount of the TR SO_2 Group 2 allowances determined under paragraph (b)(4)(i) of this section for the unit, multiplied by the amount of TR SO_2 Group 2 allowances in the Indian country new unit set-aside for such control period, divided by the sum under paragraph (b)(5) of this section, and rounded to the nearest allowance.

(8) The Administrator will notify the public, through the promulgation of the notices of data availability described in §97.711(b)(2)(i) and (ii), of the amount of TR SO_2 Group 2 allowances allocated under paragraphs (b)(2) through (7) and (12) of this section for such control period to each TR SO_2 Group 2 unit eligible for such allocation.

(9) If, after completion of the procedures under paragraphs (b)(5) through (8) of this section for such control period, any unallocated TR SO_2 Group 2 allowances remain in the Indian country new unit set-aside for the State for such control period, the Administrator will allocate such TR SO_2 Group 2 allowances as follows—

(i) The Administrator will determine, for each unit described in paragraph (b)(1) of this section that commenced commercial operation during the period starting January 1 of the year before the year of such control period and ending November 30 of year of such control period, the positive difference (if any) between the unit's emissions during such control period and the amount of TR SO_2 Group 2 allowances referenced in the notice of data availability required under §97.711(b)(2)(ii) for the unit for such control period;

(ii) The Administrator will determine the sum of the positive differences determined under paragraph (b)(9)(i) of this section;

(iii) If the amount of unallocated TR SO_2 Group 2 allowances remaining in the Indian country new unit set-aside for the State for such control period is greater than or equal to the sum determined under paragraph (b)(9)(ii) of this section, then the Administrator will allocate the amount of TR SO_2 Group 2 allowances determined for each such TR SO_2 Group 2 unit under paragraph (b)(9)(i) of this section; and

(iv) If the amount of unallocated TR SO_2 Group 2 allowances remaining in the Indian country new unit set-aside for the State for such control period is less than the sum under paragraph (b)(9)(ii) of this section, then the Administrator will allocate to each such TR SO_2 Group 2 unit the amount of the TR SO_2 Group 2 allowances determined under paragraph (b)(9)(i) of this section for the unit, multiplied by the amount of unallocated TR SO_2 Group 2 allowances remaining in the Indian country new unit set-aside for such control period, divided by the sum under paragraph (b)(9)(ii) of this section, and rounded to the nearest allowance.

(10) If, after completion of the procedures under paragraphs (b)(9) and (12) of this section for such control period, any unallocated TR SO_2 Group 2 allowances remain in the Indian country new unit set-aside for the State for

such control period, the Administrator will:

(i) Transfer such unallocated TR SO_2 Group 2 allowances to the new unit set-aside for the State for such control period; or

(ii) If the State has a SIP revision approved under § 52.39(g), (h), or (i) of this chapter covering such control period, include such unallocated TR SO_2 Group 2 allowances in the portion of the State SO_2 Group 2 trading budget that may be allocated for such control period in accordance with such SIP revision.

(11) The Administrator will notify the public, through the promulgation of the notices of data availability described in § 97.711(b)(2)(iii), (iv), and (v), of the amount of TR SO_2 Group 2 allowances allocated under paragraphs (b)(9), (10), and (12) of this section for such control period to each TR SO_2 Group 2 unit eligible for such allocation.

(12)(i) Notwithstanding the requirements of paragraphs (b)(2) through (11) of this section, if the calculations of allocations of an Indian country new unit set-aside for a control period in a given year under paragraph (b)(7) of this section, paragraphs (b)(6) and (9)(iv) of this section, or paragraphs (b)(6), (9)(iii), and (10) of this section would otherwise result in total allocations of such Indian country new unit set-aside exceeding the total amount of such Indian country new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (b)(7), (9)(iv), or (10) of this section, as applicable, as follows. The Administrator will list the TR SO_2 Group 2 units in descending order based on the amount of such units' allocations under paragraph (b)(7), (9)(iv), or (10) of this section, as applicable, and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will reduce each unit's allocation under paragraph (b)(7), (9)(iv), or (10) of this section, as applicable, by one TR SO_2 Group 2 allowance (but not below zero) in the order in which the units are listed and will repeat this reduction process as necessary, until the total allocations of such Indian country new unit set-aside equal the total amount of such Indian country new unit set-aside.

(ii) Notwithstanding the requirements of paragraphs (b)(10) and (11) of this section, if the calculations of allocations of an Indian country new unit set-aside for a control period in a given year under paragraphs (b)(6), (9)(iii), and (10) of this section would otherwise result in a total allocations of such Indian country new unit set-aside less than the total amount of such Indian country new unit set-aside, then the Administrator will adjust the results of the calculations under paragraph (b)(10) of this section, as follows. The Administrator will list the TR SO_2 Group 2 units in descending order based on the amount of such units' allocations under paragraph (b)(10) of this section and, in cases of equal allocation amounts, in alphabetical order of the relevant source's name and numerical order of the relevant unit's identification number, and will increase each unit's allocation under paragraph (b)(10) of this section by one TR SO_2 Group 2 allowance in the order in which the units are listed and will repeat this increase process as necessary, until the total allocations of such Indian country new unit set-aside equal the total amount of such Indian country new unit set-aside.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.713 Authorization of designated representative and alternate designated representative.

(a) Except as provided under § 97.715, each TR SO_2 Group 2 source, including all TR SO_2 Group 2 units at the source, shall have one and only one designated representative, with regard to all matters under the TR SO_2 Group 2 Trading Program.

(1) The designated representative shall be selected by an agreement binding on the owners and operators of the source and all TR SO_2 Group 2 units at the source and shall act in accordance with the certification statement in § 97.716(a)(4)(iii).

(2) Upon and after receipt by the Administrator of a complete certificate of representation under § 97.716:

(i) The designated representative shall be authorized and shall represent

and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the source and each TR SO_2 Group 2 unit at the source in all matters pertaining to the TR SO_2 Group 2 Trading Program, notwithstanding any agreement between the designated representative and such owners and operators; and

(ii) The owners and operators of the source and each TR SO_2 Group 2 unit at the source shall be bound by any decision or order issued to the designated representative by the Administrator regarding the source or any such unit.

(b) Except as provided under § 97.715, each TR SO_2 Group 2 source may have one and only one alternate designated representative, who may act on behalf of the designated representative. The agreement by which the alternate designated representative is selected shall include a procedure for authorizing the alternate designated representative to act in lieu of the designated representative.

(1) The alternate designated representative shall be selected by an agreement binding on the owners and operators of the source and all TR SO_2 Group 2 units at the source and shall act in accordance with the certification statement in § 97.716(a)(4)(iii).

(2) Upon and after receipt by the Administrator of a complete certificate of representation under § 97.716,

(i) The alternate designated representative shall be authorized;

(ii) Any representation, action, inaction, or submission by the alternate designated representative shall be deemed to be a representation, action, inaction, or submission by the designated representative; and

(iii) The owners and operators of the source and each TR SO_2 Group 2 unit at the source shall be bound by any decision or order issued to the alternate designated representative by the Administrator regarding the source or any such unit.

(c) Except in this section, § 97.702, and §§ 97.714 through 97.718, whenever the term ''designated representative'' (as distinguished from the term ''common designated representative'') is used in this subpart, the term shall be construed to include the designated representative or any alternate designated representative.

§ 97.714 Responsibilities of designated representative and alternate designated representative.

(a) Except as provided under § 97.718 concerning delegation of authority to make submissions, each submission under the TR SO_2 Group 2 Trading Program shall be made, signed, and certified by the designated representative or alternate designated representative for each TR SO_2 Group 2 source and TR SO_2 Group 2 unit for which the submission is made. Each such submission shall include the following certification statement by the designated representative or alternate designated representative: ''I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(b) The Administrator will accept or act on a submission made for a TR SO_2 Group 2 source or a TR SO_2 Group 2 unit only if the submission has been made, signed, and certified in accordance with paragraph (a) of this section and § 97.718.

§ 97.715 Changing designated representative and alternate designated representative; changes in owners and operators; changes in units at the source.

(a) *Changing designated representative.* The designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.716. Notwithstanding any such change, all representations, actions, inactions, and submissions by

the previous designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new designated representative and the owners and operators of the TR SO_2 Group 2 source and the TR SO_2 Group 2 units at the source.

(b) *Changing alternate designated representative.* The alternate designated representative may be changed at any time upon receipt by the Administrator of a superseding complete certificate of representation under § 97.716. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate designated representative before the time and date when the Administrator receives the superseding certificate of representation shall be binding on the new alternate designated representative, the designated representative, and the owners and operators of the TR SO_2 Group 2 source and the TR SO_2 Group 2 units at the source.

(c) *Changes in owners and operators.* (1) In the event an owner or operator of a TR SO_2 Group 2 source or a TR SO_2 Group 2 unit at the source is not included in the list of owners and operators in the certificate of representation under § 97.716, such owner or operator shall be deemed to be subject to and bound by the certificate of representation, the representations, actions, inactions, and submissions of the designated representative and any alternate designated representative of the source or unit, and the decisions and orders of the Administrator, as if the owner or operator were included in such list.

(2) Within 30 days after any change in the owners and operators of a TR SO_2 Group 2 source or a TR SO_2 Group 2 unit at the source, including the addition or removal of an owner or operator, the designated representative or any alternate designated representative shall submit a revision to the certificate of representation under § 97.716 amending the list of owners and operators to reflect the change.

(d) *Changes in units at the source.* Within 30 days of any change in which units are located at a TR SO_2 Group 2 source (including the addition or removal of a unit), the designated representative or any alternate designated representative shall submit a certificate of representation under § 97.716 amending the list of units to reflect the change.

(1) If the change is the addition of a unit that operated (other than for purposes of testing by the manufacturer before initial installation) before being located at the source, then the certificate of representation shall identify, in a format prescribed by the Administrator, the entity from whom the unit was purchased or otherwise obtained (including name, address, telephone number, and facsimile number (if any)), the date on which the unit was purchased or otherwise obtained, and the date on which the unit became located at the source.

(2) If the change is the removal of a unit, then the certificate of representation shall identify, in a format prescribed by the Administrator, the entity to which the unit was sold or that otherwise obtained the unit (including name, address, telephone number, and facsimile number (if any)), the date on which the unit was sold or otherwise obtained, and the date on which the unit became no longer located at the source.

§ 97.716 Certificate of representation.

(a) A complete certificate of representation for a designated representative or an alternate designated representative shall include the following elements in a format prescribed by the Administrator:

(1) Identification of the TR SO_2 Group 2 source, and each TR SO_2 Group 2 unit at the source, for which the certificate of representation is submitted, including source name, source category and NAICS code (or, in the absence of a NAICS code, an equivalent code), State, plant code, county, latitude and longitude, unit identification number and type, identification number and nameplate capacity (in MWe, rounded to the nearest tenth) of each generator served by each such unit, actual or projected date of commencement of commercial operation, and a statement of whether such source is located in Indian Country. If a projected date of commencement of commercial operation is provided, the actual date of

commencement of commercial operation shall be provided when such information becomes available.

(2) The name, address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the designated representative and any alternate designated representative.

(3) A list of the owners and operators of the TR SO_2 Group 2 source and of each TR SO_2 Group 2 unit at the source.

(4) The following certification statements by the designated representative and any alternate designated representative—

(i) ''I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the source and each TR SO_2 Group 2 unit at the source.''

(ii) ''I certify that I have all the necessary authority to carry out my duties and responsibilities under the TR SO_2 Group 2 Trading Program on behalf of the owners and operators of the source and of each TR SO_2 Group 2 unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the Administrator regarding the source or unit.''

(iii) ''Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, a TR SO_2 Group 2 unit, or where a utility or industrial customer purchases power from a TR SO_2 Group 2 unit under a life-of-the-unit, firm power contractual arrangement, I certify that: I have given a written notice of my selection as the 'designated representative' or 'alternate designated representative', as applicable, and of the agreement by which I was selected to each owner and operator of the source and of each TR SO_2 Group 2 unit at the source; and TR SO_2 Group 2 allowances and proceeds of transactions involving TR SO_2 Group 2 allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, except that, if such multiple holders have expressly provided for a different distribution of TR SO_2 Group 2 allowances by contract, TR SO_2 Group 2 allowances and proceeds of transactions involving TR SO_2 Group 2 allowances will be deemed to be held or distributed in accordance with the contract.''

(5) The signature of the designated representative and any alternate designated representative and the dates signed.

(b) Unless otherwise required by the Administrator, documents of agreement referred to in the certificate of representation shall not be submitted to the Administrator. The Administrator shall not be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

§97.717 Objections concerning designated representative and alternate designated representative.

(a) Once a complete certificate of representation under §97.716 has been submitted and received, the Administrator will rely on the certificate of representation unless and until a superseding complete certificate of representation under §97.716 is received by the Administrator.

(b) Except as provided in paragraph (a) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission, of a designated representative or alternate designated representative shall affect any representation, action, inaction, or submission of the designated representative or alternate designated representative or the finality of any decision or order by the Administrator under the TR SO_2 Group 2 Trading Program.

(c) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any designated representative or alternate designated representative, including private legal disputes concerning the proceeds of TR SO_2 Group 2 allowance transfers.

§97.718 Delegation by designated representative and alternate designated representative.

(a) A designated representative may delegate, to one or more natural persons, his or her authority to make an

electronic submission to the Administrator provided for or required under this subpart.

(b) An alternate designated representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(c) In order to delegate authority to a natural person to make an electronic submission to the Administrator in accordance with paragraph (a) or (b) of this section, the designated representative or alternate designated representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(1) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such designated representative or alternate designated representative;

(2) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to in this section as an ''agent'');

(3) For each such natural person, a list of the type or types of electronic submissions under paragraph (a) or (b) of this section for which authority is delegated to him or her; and

(4) The following certification statements by such designated representative or alternate designated representative:

(i) ''I agree that any electronic submission to the Administrator that is made by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am a designated representative or alternate designated representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.718(d) shall be deemed to be an electronic submission by me.''

(ii) ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.718(d), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.718 is terminated.''.

(d) A notice of delegation submitted under paragraph (c) of this section shall be effective, with regard to the designated representative or alternate designated representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such designated representative or alternate designated representative, as appropriate. The superseding notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(e) Any electronic submission covered by the certification in paragraph (c)(4)(i) of this section and made in accordance with a notice of delegation effective under paragraph (d) of this section shall be deemed to be an electronic submission by the designated representative or alternate designated representative submitting such notice of delegation.

§ 97.719 [Reserved]

§ 97.720 Establishment of compliance accounts, assurance accounts, and general accounts.

(a) *Compliance accounts.* Upon receipt of a complete certificate of representation under § 97.716, the Administrator will establish a compliance account for the TR SO_2 Group 2 source for which the certificate of representation was submitted, unless the source already has a compliance account. The designated representative and any alternate designated representative of the source shall be the authorized account representative and the alternate authorized account representative respectively of the compliance account.

(b) *Assurance accounts.* The Administrator will establish assurance accounts for certain owners and operators and States in accordance with § 97.725(b)(3).

(c) *General accounts.* (1) Application for general account. (i) Any person may apply to open a general account, for the purpose of holding and transferring TR SO_2 Group 2 allowances, by submitting to the Administrator a

complete application for a general account. Such application shall designate one and only one authorized account representative and may designate one and only one alternate authorized account representative who may act on behalf of the authorized account representative.

(A) The authorized account representative and alternate authorized account representative shall be selected by an agreement binding on the persons who have an ownership interest with respect to TR SO_2 Group 2 allowances held in the general account.

(B) The agreement by which the alternate authorized account representative is selected shall include a procedure for authorizing the alternate authorized account representative to act in lieu of the authorized account representative.

(ii) A complete application for a general account shall include the following elements in a format prescribed by the Administrator:

(A) Name, mailing address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the authorized account representative and any alternate authorized account representative;

(B) An identifying name for the general account;

(C) A list of all persons subject to a binding agreement for the authorized account representative and any alternate authorized account representative to represent their ownership interest with respect to the TR SO_2 Group 2 allowances held in the general account;

(D) The following certification statement by the authorized account representative and any alternate authorized account representative: ''I certify that I was selected as the authorized account representative or the alternate authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to TR SO_2 Group 2 allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the TR SO_2 Group 2 Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the Administrator regarding the general account.''

(E) The signature of the authorized account representative and any alternate authorized account representative and the dates signed.

(iii) Unless otherwise required by the Administrator, documents of agreement referred to in the application for a general account shall not be submitted to the Administrator. The Administrator shall not be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(2) Authorization of authorized account representative and alternate authorized account representative. (i) Upon receipt by the Administrator of a complete application for a general account under paragraph (b)(1) of this section, the Administrator will establish a general account for the person or persons for whom the application is submitted, and upon and after such receipt by the Administrator:

(A) The authorized account representative of the general account shall be authorized and shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to TR SO_2 Group 2 allowances held in the general account in all matters pertaining to the TR SO_2 Group 2 Trading Program, notwithstanding any agreement between the authorized account representative and such person.

(B) Any alternate authorized account representative shall be authorized, and any representation, action, inaction, or submission by any alternate authorized account representative shall be deemed to be a representation, action, inaction, or submission by the authorized account representative.

(C) Each person who has an ownership interest with respect to TR SO_2 Group 2 allowances held in the general account shall be bound by any decision or order issued to the authorized account representative or alternate authorized account representative by the Administrator regarding the general account.

(ii) Except as provided in paragraph (c)(5) of this section concerning delegation of authority to make submissions,

each submission concerning the general account shall be made, signed, and certified by the authorized account representative or any alternate authorized account representative for the persons having an ownership interest with respect to TR SO_2 Group 2 allowances held in the general account. Each such submission shall include the following certification statement by the authorized account representative or any alternate authorized account representative: ''I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the TR SO_2 Group 2 allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(iii) Except in this section, whenever the term ''authorized account representative'' is used in this subpart, the term shall be construed to include the authorized account representative or any alternate authorized account representative.

(3) Changing authorized account representative and alternate authorized account representative; changes in persons with ownership interest. (i) The authorized account representative of a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (c)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new authorized account representative and the persons with an ownership interest with respect to the TR SO_2 Group 2 allowances in the general account.

(ii) The alternate authorized account representative of a general account may be changed at any time upon receipt by the Administrator of a superseding complete application for a general account under paragraph (c)(1) of this section. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous alternate authorized account representative before the time and date when the Administrator receives the superseding application for a general account shall be binding on the new alternate authorized account representative, the authorized account representative, and the persons with an ownership interest with respect to the TR SO_2 Group 2 allowances in the general account.

(iii)(A) In the event a person having an ownership interest with respect to TR SO_2 Group 2 allowances in the general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representation, actions, inactions, and submissions of the authorized account representative and any alternate authorized account representative of the account, and the decisions and orders of the Administrator, as if the person were included in such list.

(B) Within 30 days after any change in the persons having an ownership interest with respect to SO_2 Group 2 allowances in the general account, including the addition or removal of a person, the authorized account representative or any alternate authorized account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the TR SO_2 Group 2 allowances in the general account to include the change.

(4) Objections concerning authorized account representative and alternate authorized account representative. (i) Once a complete application for a general account under paragraph (c)(1) of this section has been submitted and received, the Administrator will rely on

the application unless and until a superseding complete application for a general account under paragraph (b)(1) of this section is received by the Administrator.

(ii) Except as provided in paragraph (c)(4)(i) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative of a general account shall affect any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative or the finality of any decision or order by the Administrator under the TR SO_2 Group 2 Trading Program.

(iii) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the authorized account representative or any alternate authorized account representative of a general account, including private legal disputes concerning the proceeds of TR SO_2 Group 2 allowance transfers.

(5) Delegation by authorized account representative and alternate authorized account representative. (i) An authorized account representative of a general account may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(ii) An alternate authorized account representative of a general account may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Administrator provided for or required under this subpart.

(iii) In order to delegate authority to a natural person to make an electronic submission to the Administrator in accordance with paragraph (c)(5)(i) or (ii) of this section, the authorized account representative or alternate authorized account representative, as appropriate, must submit to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(A) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of such authorized account representative or alternate authorized account representative;

(B) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such natural person (referred to in this section as an ''agent'');

(C) For each such natural person, a list of the type or types of electronic submissions under paragraph (c)(5)(i) or (ii) of this section for which authority is delegated to him or her;

(D) The following certification statement by such authorized account representative or alternate authorized account representative: ''I agree that any electronic submission to the Administrator that is made by an agent identified in this notice of delegation and of a type listed for such agent in this notice of delegation and that is made when I am an authorized account representative or alternate authorized representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 40 CFR 97.720(c)(5)(iv) shall be deemed to be an electronic submission by me.''; and

(E) The following certification statement by such authorized account representative or alternate authorized account representative: ''Until this notice of delegation is superseded by another notice of delegation under 40 CFR 97.720(c)(5)(iv), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under 40 CFR 97.720(c)(5) is terminated.''.

(iv) A notice of delegation submitted under paragraph (c)(5)(iii) of this section shall be effective, with regard to the authorized account representative or alternate authorized account representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of a superseding notice of delegation submitted by such authorized account representative or alternate authorized account representative, as appropriate. The superseding notice of delegation may replace any

previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(v) Any electronic submission covered by the certification in paragraph (c)(5)(iii)(D) of this section and made in accordance with a notice of delegation effective under paragraph (c)(5)(iv) of this section shall be deemed to be an electronic submission by the designated representative or alternate designated representative submitting such notice of delegation.

(6) Closing a general account. (i) The authorized account representative or alternate authorized account representative of a general account may submit to the Administrator a request to close the account. Such request shall include a correctly submitted TR SO_2 Group 2 allowance transfer under § 97.722 for any TR SO_2 Group 2 allowances in the account to one or more other Allowance Management System accounts.

(ii) If a general account has no TR SO_2 Group 2 allowance transfers to or from the account for a 12-month period or longer and does not contain any TR SO_2 Group 2 allowances, the Administrator may notify the authorized account representative for the account that the account will be closed after 30 days after the notice is sent. The account will be closed after the 30-day period unless, before the end of the 30-day period, the Administrator receives a correctly submitted TR SO_2 Group 2 allowance transfer under § 97.722 to the account or a statement submitted by the authorized account representative or alternate authorized account representative demonstrating to the satisfaction of the Administrator good cause as to why the account should not be closed.

(d) *Account identification*. The Administrator will assign a unique identifying number to each account established under paragraph (a), (b), or (c) of this section.

(e) *Responsibilities of authorized account representative and alternate authorized account representative*. After the establishment of a compliance account or general account, the Administrator will accept or act on a submission pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of TR SO_2 Group 2 allowances in the account, only if the submission has been made, signed, and certified in accordance with §§ 97.714(a) and 97.718 or paragraphs (c)(2)(ii) and (c)(5) of this section.

§ 97.721 Recordation of TR SO_2 Group 2 allowance allocations and auction results.

(a) By November 7, 2011, the Administrator will record in each TR SO_2 Group 2 source's compliance account the TR SO_2 Group 2 allowances allocated to the TR SO_2 Group 2 units at the source in accordance with § 97.711(a) for the control period in 2015.

(b) By November 7, 2011, the Administrator will record in each TR SO_2 Group 2 source's compliance account the TR SO_2 Group 2 allowances allocated to the TR SO_2 Group 2 units at the source in accordance with § 97.711(a) for the control period in 2016, unless the State in which the source is located notifies the Administrator in writing by October 17, 2011 of the State's intent to submit to the Administrator a complete SIP revision by April 1, 2015 meeting the requirements of § 52.39(g)(1) through (4) of this chapter.

(1) If, by April 1, 2015, the State does not submit to the Administrator such complete SIP revision, the Administrator will record by April 15, 2015 in each TR SO_2 Group 2 source's compliance account the TR SO_2 Group 2 allowances allocated to the TR SO_2 Group 2 units at the source in accordance with § 97.711(a) for the control period in 2016.

(2) If the State submits to the Administrator by April 1, 2015, and the Administrator approves by October 1, 2015, such complete SIP revision, the Administrator will record by October 1, 2015 in each TR SO_2 Group 2 source's compliance account the TR SO_2 Group 2 allowances allocated to the TR SO_2 Group 2 units at the source as provided in such approved, complete SIP revision for the control period in 2016.

(3) If the State submits to the Administrator by April 1, 2015, and the Administrator does not approve by October 1, 2015, such complete SIP revision, the Administrator will record by

October 1, 2015 in each TR SO_2 Group 2 source's compliance account the TR SO_2 Group 2 allowances allocated to the TR SO_2 Group 2 units at the source in accordance with §97.711(a) for the control period in 2016.

(c) By July 1, 2016, the Administrator will record in each TR SO_2 Group 2 source's compliance account the TR SO_2 Group 2 allowances allocated to the TR SO_2 Group 2 units at the source, or in each appropriate Allowance Management System account the TR SO_2 Group 2 allowances auctioned to TR SO_2 Group 2 units, in accordance with §97.711(a), or with a SIP revision approved under §52.39(h) or (i) of this chapter, for the control period in 2017 and 2018.

(d) By July 1, 2017, the Administrator will record in each TR SO_2 Group 2 source's compliance account the TR SO_2 Group 2 allowances allocated to the TR SO_2 Group 2 units at the source, or in each appropriate Allowance Management System account the TR SO_2 Group 2 allowances auctioned to TR SO_2 Group 2 units, in accordance with §97.711(a), or with a SIP revision approved under §52.39(h) or (i) of this chapter, for the control period in 2019 and 2020.

(e) By July 1, 2018, the Administrator will record in each TR SO_2 Group 2 source's compliance account the TR SO_2 Group 2 allowances allocated to the TR SO_2 Group 2 units at the source, or in each appropriate Allowance Management System account the TR SO_2 Group 2 allowances auctioned to TR SO_2 Group 2 units, in accordance with §97.711(a), or with a SIP revision approved under §52.39(h) or (i) of this chapter, for the control period in 2021 and 2022.

(f) By July 1, 2019 and July 1 of each year thereafter, the Administrator will record in each TR SO_2 Group 2 source's compliance account the TR SO_2 Group 2 allowances allocated to the TR SO_2 Group 2 units at the source, or in each appropriate Allowance Management System account the TR SO_2 Group 2 allowances auctioned to TR SO_2 Group 2 units, in accordance with §97.711(a), or with a SIP revision approved under §52.39(h) and (i) of this chapter, for the control period in the fourth year after the year of the applicable recordation deadline under this paragraph.

(g) By August 1, 2015 and August 1 of each year thereafter, the Administrator will record in each TR SO_2 Group 2 source's compliance account the TR SO_2 Group 2 allowances allocated to the TR SO_2 Group 2 units at the source, or in each appropriate Allowance Management System account the TR SO_2 Group 2 allowances auctioned to TR SO_2 Group 2 units, in accordance with §97.712(a)(2) through (8) and (12), or with a SIP revision approved under §52.39(h) and (i) of this chapter, for the control period in the year of the applicable recordation deadline under this paragraph.

(h) By August 1, 2015 and August 1 of each year thereafter, the Administrator will record in each TR SO_2 Group 2 source's compliance account the TR SO_2 Group 2 allowances allocated to the TR SO_2 Group 2 units at the source in accordance with §97.712(b)(2) through (8) and (12) for the control period in the year of the applicable recordation deadline under this paragraph.

(i) By February 15, 2016 and February 15 of each year thereafter, the Administrator will record in each TR SO_2 Group 2 source's compliance account the TR SO_2 Group 2 allowances allocated to the TR SO_2 Group 2 units at the source in accordance with §97.712(a)(9) through (12), for the control period in the year before the year of the applicable recordation deadline under this paragraph.

(j) By the date on which any allocation or auction results, other than an allocation or auction results, described in paragraphs (a) through (i) of this section, of TR SO_2 Group 2 allowances to a recipient is made by or are submitted to the Administrator in accordance with §97.711 or §97.712 or with a SIP revision approved under §52.39(h) or (i) of this chapter, the Administrator will record such allocation or auction results in the appropriate Allowance Management System account.

(k) When recording the allocation or auction of TR SO_2 Group 2 allowances to a TR SO_2 Group 2 unit or other entity in an Allowance Management System account, the Administrator will assign each TR SO_2 Group 2 allowance

a unique identification number that will include digits identifying the year of the control period for which the TR SO_2 Group 2 allowance is allocated or auctioned.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.722 Submission of TR SO_2 Group 2 allowance transfers.

(a) An authorized account representative seeking recordation of a TR SO_2 Group 2 allowance transfer shall submit the transfer to the Administrator.

(b) A TR SO_2 Group 2 allowance transfer shall be correctly submitted if:

(1) The transfer includes the following elements, in a format prescribed by the Administrator:

(i) The account numbers established by the Administrator for both the transferor and transferee accounts;

(ii) The serial number of each TR SO_2 Group 2 allowance that is in the transferor account and is to be transferred; and

(iii) The name and signature of the authorized account representative of the transferor account and the date signed; and

(2) When the Administrator attempts to record the transfer, the transferor account includes each TR SO_2 Group 2 allowance identified by serial number in the transfer.

§ 97.723 Recordation of TR SO_2 Group 2 allowance transfers.

(a) Within 5 business days (except as provided in paragraph (b) of this section) of receiving a TR SO_2 Group 2 allowance transfer that is correctly submitted under § 97.722, the Administrator will record a TR SO_2 Group 2 allowance transfer by moving each TR SO_2 Group 2 allowance from the transferor account to the transferee account as specified in the transfer.

(b) A TR SO_2 Group 2 allowance transfer to or from a compliance account that is submitted for recordation after the allowance transfer deadline for a control period and that includes any TR SO_2 Group 2 allowances allocated for any control period before such allowance transfer deadline will not be recorded until after the Administrator completes the deductions from such compliance account under § 97.724 for the control period immediately before such allowance transfer deadline.

(c) Where a TR SO_2 Group 2 allowance transfer is not correctly submitted under § 97.722, the Administrator will not record such transfer.

(d) Within 5 business days of recordation of a TR SO_2 Group 2 allowance transfer under paragraphs (a) and (b) of the section, the Administrator will notify the authorized account representatives of both the transferor and transferee accounts.

(e) Within 10 business days of receipt of a TR SO_2 Group 2 allowance transfer that is not correctly submitted under § 97.722, the Administrator will notify the authorized account representatives of both accounts subject to the transfer of:

(1) A decision not to record the transfer, and

(2) The reasons for such non-recordation.

§ 97.724 Compliance with TR SO_2 Group 2 emissions limitation.

(a) *Availability for deduction for compliance.* TR SO_2 Group 2 allowances are available to be deducted for compliance with a source's TR SO_2 Group 2 emissions limitation for a control period in a given year only if the TR SO_2 Group 2 allowances:

(1) Were allocated for such control period or a control period in a prior year; and

(2) Are held in the source's compliance account as of the allowance transfer deadline for such control period.

(b) *Deductions for compliance.* After the recordation, in accordance with § 97.723, of TR SO_2 Group 2 allowance transfers submitted by the allowance transfer deadline for a control period in a given year, the Administrator will deduct from each source's compliance account TR SO_2 Group 2 allowances available under paragraph (a) of this section in order to determine whether the source meets the TR SO_2 Group 2 emissions limitation for such control period, as follows:

(1) Until the amount of TR SO_2 Group 2 allowances deducted equals the number of tons of total SO_2 emissions from all TR SO_2 Group 2 units at the source for such control period; or

(2) If there are insufficient TR SO_2 Group 2 allowances to complete the deductions in paragraph (b)(1) of this section, until no more TR SO_2 Group 2 allowances available under paragraph (a) of this section remain in the compliance account.

(c)(1) *Identification of TR SO_2 Group 2 allowances by serial number.* The authorized account representative for a source's compliance account may request that specific TR SO_2 Group 2 allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period in a given year in accordance with paragraph (b) or (d) of this section. In order to be complete, such request shall be submitted to the Administrator by the allowance transfer deadline for such control period and include, in a format prescribed by the Administrator, the identification of the TR SO_2 Group 2 source and the appropriate serial numbers.

(2) *First-in, first-out.* The Administrator will deduct TR SO_2 Group 2 allowances under paragraph (b) or (d) of this section from the source's compliance account in accordance with a complete request under paragraph (c)(1) of this section or, in the absence of such request or in the case of identification of an insufficient amount of TR SO_2 Group 2 allowances in such request, on a first-in, first-out accounting basis in the following order:

(i) Any TR SO_2 Group 2 allowances that were allocated to the units at the source and not transferred out of the compliance account, in the order of recordation; and then

(ii) Any TR SO_2 Group 2 allowances that were allocated to any unit and transferred to and recorded in the compliance account pursuant to this subpart, in the order of recordation.

(d) *Deductions for excess emissions.* After making the deductions for compliance under paragraph (b) of this section for a control period in a year in which the TR SO_2 Group 2 source has excess emissions, the Administrator will deduct from the source's compliance account an amount of TR SO_2 Group 2 allowances, allocated for a control period in a prior year or the control period in the year of the excess emissions or in the immediately following year, equal to two times the number of tons of the source's excess emissions.

(e) *Recordation of deductions.* The Administrator will record in the appropriate compliance account all deductions from such an account under paragraphs (b) and (d) of this section.

§ 97.725 Compliance with TR SO_2 Group 2 assurance provisions.

(a) *Availability for deduction.* TR SO_2 Group 2 allowances are available to be deducted for compliance with the TR SO_2 Group 2 assurance provisions for a control period in a given year by the owners and operators of a group of one or more TR SO_2 Group 2 sources and units in a State (and Indian country within the borders of such State) only if the TR SO_2 Group 2 allowances:

(1) Were allocated for a control period in a prior year or the control period in the given year or in the immediately following year; and

(2) Are held in the assurance account, established by the Administrator for such owners and operators of such group of TR SO_2 Group 2 sources and units in such State (and Indian country within the borders of such State) under paragraph (b)(3) of this section, as of the deadline established in paragraph (b)(4) of this section.

(b) *Deductions for compliance.* The Administrator will deduct TR SO_2 Group 2 allowances available under paragraph (a) of this section for compliance with the TR SO_2 Group 2 assurance provisions for a State for a control period in a given year in accordance with the following procedures:

(1) By June 1, 2018 and June 1 of each year thereafter, the Administrator will:

(i) Calculate, for each State (and Indian country within the borders of such State), the total SO_2 emissions from all TR SO_2 Group 2 units at TR SO_2 Group 2 sources in the State (and Indian country within the borders of such State) during the control period in the year before the year of this calculation deadline and the amount, if any, by which such total SO_2 emissions exceed the State assurance level as described in § 97.706(c)(2)(iii); and

(ii) Promulgate a notice of data availability of the results of the calculations required in paragraph (b)(1)(i) of this section, including separate calculations of the SO_2 emissions from each TR SO_2 Group 2 source.

(2) For each notice of data availability required in paragraph (b)(1)(ii) of this section and for any State (and Indian country within the borders of such State) identified in such notice as having TR SO_2 Group 2 units with total SO_2 emissions exceeding the State assurance level for a control period in a given year, as described in § 97.706(c)(2)(iii):

(i) By July 1 immediately after the promulgation of such notice, the designated representative of each TR SO_2 Group 2 source in each such State (and Indian country within the borders of such State) shall submit a statement, in a format prescribed by the Administrator, providing for each TR SO_2 Group 2 unit (if any) at the source that operates during, but is not allocated an amount of TR SO_2 Group 2 allowances for, such control period, the unit's allowable SO_2 emission rate for such control period and, if such rate is expressed in lb per mmBtu, the unit's heat rate.

(ii) By August 1 immediately after the promulgation of such notice, the Administrator will calculate, for each such State (and Indian country within the borders of such State) and such control period and each common designated representative for such control period for a group of one or more TR SO_2 Group 2 sources and units in the State (and Indian country within the borders of such State), the common designated representative's share of the total SO_2 emissions from all TR SO_2 Group 2 units at TR SO_2 Group 2 sources in the State (and Indian country within the borders of such State), the common designated representative's assurance level, and the amount (if any) of TR SO_2 Group 2 allowances that the owners and operators of such group of sources and units must hold in accordance with the calculation formula in § 97.706(c)(2)(i) and will promulgate a notice of data availability of the results of these calculations.

(iii) The Administrator will provide an opportunity for submission of objections to the calculations referenced by the notice of data availability required in paragraph (b)(2)(ii) of this section and the calculations referenced by the relevant notice of data availability required in paragraph (b)(1)(i) of this section.

(A) Objections shall be submitted by the deadline specified in such notice and shall be limited to addressing whether the calculations referenced in the relevant notice required under paragraph (b)(1)(ii) of this section and referenced in the notice required under paragraph (b)(2)(ii) of this section are in accordance with § 97.706(c)(2)(iii), §§ 97.706(b) and 97.730 through 97.735, the definitions of ''common designated representative'', ''common designated representative's assurance level'', and ''common designated representative's share'' in § 97.702, and the calculation formula in § 97.706(c)(2)(i).

(B) The Administrator will adjust the calculations to the extent necessary to ensure that they are in accordance with the provisions referenced in paragraph (b)(2)(iii)(A) of this section. By October 1 immediately after the promulgation of such notice, the Administrator will promulgate a notice of data availability of any adjustments that the Administrator determines to be necessary and the reasons for accepting or rejecting any objections submitted in accordance with paragraph (b)(2)(iii)(A) of this section.

(3) For any State (and Indian country within the borders of such State) referenced in each notice of data availability required in paragraph (b)(2)(iii)(B) of this section as having TR SO_2 Group 2 units with total SO_2 emissions exceeding the State assurance level for a control period in a given year, the Administrator will establish one assurance account for each set of owners and operators referenced, in the notice of data availability required under paragraph (b)(2)(iii)(B) of this section, as all of the owners and operators of a group of TR SO_2 Group 2 sources and units in the State (and Indian country within the borders of such State) having a common designated representative for such control period and as being required to hold TR SO_2 Group 2 allowances.

(4)(i) As of midnight of November 1 immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii)(B) of this section, the owners and operators described in paragraph (b)(3) of this section shall hold in the assurance account established for them and for the appropriate TR SO_2 Group 2 sources, TR SO_2 Group 2 units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section a total amount of TR SO_2 Group 2 allowances, available for deduction under paragraph (a) of this section, equal to the amount such owners and operators are required to hold with regard to such sources, units and State (and Indian country within the borders of such State) as calculated by the Administrator and referenced in such notice.

(ii) Notwithstanding the allowance-holding deadline specified in paragraph (b)(4)(i) of this section, if November 1 is not a business day, then such allowance-holding deadline shall be midnight of the first business day thereafter.

(5) After November 1 (or the date described in paragraph (b)(4)(ii) of this section) immediately after the promulgation of each notice of data availability required in paragraph (b)(2)(iii)(B) of this section and after the recordation, in accordance with § 97.723, of TR SO_2 Group 2 allowance transfers submitted by midnight of such date, the Administrator will determine whether the owners and operators described in paragraph (b)(3) of this section hold, in the assurance account for the appropriate TR SO_2 Group 2 sources, TR SO_2 Group 2 units, and State (and Indian country within the borders of such State) established under paragraph (b)(3) of this section, the amount of TR SO_2 Group 2 allowances available under paragraph (a) of this section that the owners and operators are required to hold with regard to such sources, units, and State (and Indian country within the borders of such State) as calculated by the Administrator and referenced in the notice required in paragraph (b)(2)(iii)(B) of this section.

(6) Notwithstanding any other provision of this subpart and any revision, made by or submitted to the Administrator after the promulgation of the notice of data availability required in paragraph (b)(2)(iii)(B) of this section for a control period in a given year, of any data used in making the calculations referenced in such notice, the amounts of TR SO_2 Group 2 allowances that the owners and operators are required to hold in accordance with § 97.706(c)(2)(i) for such control period shall continue to be such amounts as calculated by the Administrator and referenced in such notice required in paragraph (b)(2)(iii)(B) of this section, except as follows:

(i) If any such data are revised by the Administrator as a result of a decision in or settlement of litigation concerning such data on appeal under part 78 of this chapter of such notice, or on appeal under section 307 of the Clean Air Act of a decision rendered under part 78 of this chapter on appeal of such notice, then the Administrator will use the data as so revised to recalculate the amounts of TR SO_2 Group 2 allowances that owners and operators are required to hold in accordance with the calculation formula in § 97.706(c)(2)(i) for such control period with regard to the TR SO_2 Group 2 sources, TR SO_2 Group 2 units, and State (and Indian country within the borders of such State) involved, provided that such litigation under part 78 of this chapter, or the proceeding under part 78 of this chapter that resulted in the decision appealed in such litigation under section 307 of the Clean Air Act, was initiated no later than 30 days after promulgation of such notice required in paragraph (b)(2)(iii)(B) of this section.

(ii) If any such data are revised by the owners and operators of a TR SO_2 Group 2 source and TR SO_2 Group 2 unit whose designated representative submitted such data under paragraph (b)(2)(i) of this section, as a result of a decision in or settlement of litigation concerning such submission, then the Administrator will use the data as so revised to recalculate the amounts of TR SO_2 Group 2 allowances that owners and operators are required to hold in accordance with the calculation formula in § 97.706(c)(2)(i) for such control period with regard to the TR SO_2 Group

2 sources, TR SO_2 Group 2 units, and State (and Indian country within the borders of such State) involved, provided that such litigation was initiated no later than 30 days after promulgation of such notice required in paragraph (b)(2)(iii)(B) of this section.

(iii) If the revised data are used to recalculate, in accordance with paragraphs (b)(6)(i) and (ii) of this section, the amount of TR SO_2 Group 2 allowances that the owners and operators are required to hold for such control period with regard to the TR SO_2 Group 2 sources, TR SO_2 Group 2 units, and State (and Indian country within the borders of such State) involved—

(A) Where the amount of TR SO_2 Group 2 allowances that the owners and operators are required to hold increases as a result of the use of all such revised data, the Administrator will establish a new, reasonable deadline on which the owners and operators shall hold the additional amount of TR SO_2 Group 2 allowances in the assurance account established by the Administrator for the appropriate TR SO_2 Group 2 sources, TR SO_2 Group 2 units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section. The owners' and operators' failure to hold such additional amount, as required, before the new deadline shall not be a violation of the Clean Air Act. The owners' and operators' failure to hold such additional amount, as required, as of the new deadline shall be a violation of the Clean Air Act. Each TR SO_2 Group 2 allowance that the owners and operators fail to hold as required as of the new deadline, and each day in such control period, shall be a separate violation of the Clean Air Act.

(B) For the owners and operators for which the amount of TR SO_2 Group 2 allowances required to be held decreases as a result of the use of all such revised data, the Administrator will record, in all accounts from which TR SO_2 Group 2 allowances were transferred by such owners and operators for such control period to the assurance account established by the Administrator for the appropriate at TR SO_2 Group 2 sources, TR SO_2 Group 2 units, and State (and Indian country within the borders of such State) under paragraph (b)(3) of this section, a total amount of the TR SO_2 Group 2 allowances held in such assurance account equal to the amount of the decrease. If TR SO_2 Group 2 allowances were transferred to such assurance account from more than one account, the amount of TR SO_2 Group 2 allowances recorded in each such transferor account will be in proportion to the percentage of the total amount of TR SO_2 Group 2 allowances transferred to such assurance account for such control period from such transferor account.

(C) Each TR SO_2 Group 2 allowance held under paragraph (b)(6)(iii)(A) of this section as a result of recalculation of requirements under the TR SO_2 Group 2 assurance provisions for such control period must be a TR SO_2 Group 2 allowance allocated for a control period in a year before or the year immediately following, or in the same year as, the year of such control period.

[76 FR 48458, Aug. 8, 2011, as amended at 77 FR 10340, Feb. 21, 2012; 79 FR 71672, Dec. 3, 2014]

§ 97.726 Banking.

(a) A TR SO_2 Group 2 allowance may be banked for future use or transfer in a compliance account or a general account in accordance with paragraph (b) of this section.

(b) Any TR SO_2 Group 2 allowance that is held in a compliance account or a general account will remain in such account unless and until the TR SO_2 Group 2 allowance is deducted or transferred under § 97.711(c), § 97.723, § 97.724, § 97.725, § 97.727, or § 97.728.

§ 97.727 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any Allowance Management System account. Within 10 business days of making such correction, the Administrator will notify the authorized account representative for the account.

§ 97.728 Administrator's action on submissions.

(a) The Administrator may review and conduct independent audits concerning any submission under the TR SO_2 Group 2 Trading Program and

make appropriate adjustments of the information in the submission.

(b) The Administrator may deduct TR SO_2 Group 2 allowances from or transfer TR SO_2 Group 2 allowances to a compliance account or an assurance account, based on the information in a submission, as adjusted under paragraph (a)(1) of this section, and record such deductions and transfers.

§ 97.729 [Reserved]

§ 97.730 General monitoring, recordkeeping, and reporting requirements.

The owners and operators, and to the extent applicable, the designated representative, of a TR SO_2 Group 2 unit, shall comply with the monitoring, recordkeeping, and reporting requirements as provided in this subpart and subparts F and G of part 75 of this chapter. For purposes of applying such requirements, the definitions in § 97.702 and in § 72.2 of this chapter shall apply, the terms ''affected unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') in part 75 of this chapter shall be deemed to refer to the terms ''TR SO_2 Group 2 unit,'' ''designated representative,'' and ''continuous emission monitoring system'' (or ''CEMS'') respectively as defined in § 97.702, and the term ''newly affected unit'' shall be deemed to mean ''newly affected TR SO_2 Group 2 unit''. The owner or operator of a unit that is not a TR SO_2 Group 2 unit but that is monitored under § 75.16(b)(2) of this chapter shall comply with the same monitoring, recordkeeping, and reporting requirements as a TR SO_2 Group 2 unit.

(a) Requirements for installation, certification, and data accounting. The owner or operator of each TR SO_2 Group 2 unit shall:

(1) Install all monitoring systems required under this subpart for monitoring SO_2 mass emissions and individual unit heat input (including all systems required to monitor SO_2 concentration, stack gas moisture content, stack gas flow rate, CO_2 or O_2 concentration, and fuel flow rate, as applicable, in accordance with §§ 75.11 and 75.16 of this chapter);

(2) Successfully complete all certification tests required under § 97.731 and meet all other requirements of this subpart and part 75 of this chapter applicable to the monitoring systems under paragraph (a)(1) of this section; and

(3) Record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section.

(b) *Compliance deadlines.* Except as provided in paragraph (e) of this section, the owner or operator shall meet the monitoring system certification and other requirements of paragraphs (a)(1) and (2) of this section on or before the following dates and shall record, report, and quality-assure the data from the monitoring systems under paragraph (a)(1) of this section on and after the following dates.

(1) For the owner or operator of a TR SO_2 Group 2 unit that commences commercial operation before July 1, 2014, January 1, 2015.

(2) For the owner or operator of a TR SO_2 Group 2 unit that commences commercial operation on or after July 1, 2014, by the later of the following:

(i) January 1, 2015; or

(ii) 180 calendar days after the date on which the unit commences commercial operation.

(3) The owner or operator of a TR SO_2 Group 2 unit for which construction of a new stack or flue or installation of add-on SO_2 emission controls is completed after the applicable deadline under paragraph (b)(1) or (2) of this section shall meet the requirements of §§ 75.4(e)(1) through (e)(4) of this chapter, except that:

(i) Such requirements shall apply to the monitoring systems required under § 97.730 through § 97.735, rather than the monitoring systems required under part 75 of this chapter;

(ii) SO_2 concentration, stack gas moisture content, stack gas volumetric flow rate, and O_2 or CO_2 concentration data shall be determined and reported, rather than the data listed in § 75.4(e)(2) of this chapter; and

(iii) Any petition for another procedure under § 75.4(e)(2) of this chapter shall be submitted under § 97.735, rather than § 75.66.

(c) *Reporting data.* The owner or operator of a TR SO_2 Group 2 unit that does not meet the applicable compliance date set forth in paragraph (b) of this

section for any monitoring system under paragraph (a)(1) of this section shall, for each such monitoring system, determine, record, and report maximum potential (or, as appropriate, minimum potential) values for SO_2 concentration, stack gas flow rate, stack gas moisture content, fuel flow rate, and any other parameters required to determine SO_2 mass emissions and heat input in accordance with § 75.31(b)(2) or (c)(3) of this chapter or section 2.4 of appendix D to part 75 of this chapter, as applicable.

(d) *Prohibitions.* (1) No owner or operator of a TR SO_2 Group 2 unit shall use any alternative monitoring system, alternative reference method, or any other alternative to any requirement of this subpart without having obtained prior written approval in accordance with § 97.735.

(2) No owner or operator of a TR SO_2 Group 2 unit shall operate the unit so as to discharge, or allow to be discharged, SO_2 to the atmosphere without accounting for all such SO_2 in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(3) No owner or operator of a TR SO_2 Group 2 unit shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording SO_2 mass discharged into the atmosphere or heat input, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subpart and part 75 of this chapter.

(4) No owner or operator of a TR SO_2 Group 2 unit shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved monitoring system under this subpart, except under any one of the following circumstances:

(i) During the period that the unit is covered by an exemption under § 97.705 that is in effect;

(ii) The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subpart and part 75 of this chapter, by the Administrator for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system; or

(iii) The designated representative submits notification of the date of certification testing of a replacement monitoring system for the retired or discontinued monitoring system in accordance with § 97.731(d)(3)(i).

(e) *Long-term cold storage.* The owner or operator of a TR SO_2 Group 2 unit is subject to the applicable provisions of § 75.4(d) of this chapter concerning units in long-term cold storage.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.731 Initial monitoring system certification and recertification procedures.

(a) The owner or operator of a TR SO_2 Group 2 unit shall be exempt from the initial certification requirements of this section for a monitoring system under § 97.730(a)(1) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with part 75 of this chapter; and

(2) The applicable quality-assurance and quality-control requirements of § 75.21 of this chapter and appendices B and D to part 75 of this chapter are fully met for the certified monitoring system described in paragraph (a)(1) of this section.

(b) The recertification provisions of this section shall apply to a monitoring system under § 97.730(a)(1) that is exempt from initial certification requirements under paragraph (a) of this section.

(c) [Reserved]

(d) Except as provided in paragraph (a) of this section, the owner or operator of a TR SO_2 Group 2 unit shall comply with the following initial certification and recertification procedures, for a continuous monitoring system (*i.e.*, a continuous emission monitoring system and an excepted monitoring system under appendix D to part 75 of this chapter) under § 97.730(a)(1). The owner or operator of a unit that qualifies to use the low mass emissions excepted monitoring methodology under § 75.19 of this chapter or that

qualifies to use an alternative monitoring system under subpart E of part 75 of this chapter shall comply with the procedures in paragraph (e) or (f) of this section respectively.

(1) Requirements for initial certification. The owner or operator shall ensure that each continuous monitoring system under § 97.730(a)(1) (including the automated data acquisition and handling system) successfully completes all of the initial certification testing required under § 75.20 of this chapter by the applicable deadline in § 97.730(b). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this subpart in a location where no such monitoring system was previously installed, initial certification in accordance with § 75.20 of this chapter is required.

(2) Requirements for recertification. Whenever the owner or operator makes a replacement, modification, or change in any certified continuous emission monitoring system under § 97.730(a)(1) that may significantly affect the ability of the system to accurately measure or record SO_2 mass emissions or heat input rate or to meet the quality-assurance and quality-control requirements of § 75.21 of this chapter or appendix B to part 75 of this chapter, the owner or operator shall recertify the monitoring system in accordance with § 75.20(b) of this chapter. Furthermore, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify each continuous emission monitoring system whose accuracy is potentially affected by the change, in accordance with § 75.20(b) of this chapter. Examples of changes to a continuous emission monitoring system that require recertification include: Replacement of the analyzer, complete replacement of an existing continuous emission monitoring system, or change in location or orientation of the sampling probe or site. Any fuel flowmeter system under § 97.730(a)(1) is subject to the recertification requirements in § 75.20(g)(6) of this chapter.

(3) Approval process for initial certification and recertification. For initial certification of a continuous monitoring system under § 97.730(a)(1), paragraphs (d)(3)(i) through (v) of this section apply. For recertifications of such monitoring systems, paragraphs (d)(3)(i) through (iv) of this section and the procedures in §§ 75.20(b)(5) and (g)(7) of this chapter (in lieu of the procedures in paragraph (d)(3)(v) of this section) apply, provided that in applying paragraphs (d)(3)(i) through (iv) of this section, the words ''certification'' and ''initial certification'' are replaced by the word ''recertification'' and the word ''certified'' is replaced by with the word ''recertified''.

(i) Notification of certification. The designated representative shall submit to the appropriate EPA Regional Office and the Administrator written notice of the dates of certification testing, in accordance with § 97.733.

(ii) Certification application. The designated representative shall submit to the Administrator a certification application for each monitoring system. A complete certification application shall include the information specified in § 75.63 of this chapter.

(iii) Provisional certification date. The provisional certification date for a monitoring system shall be determined in accordance with § 75.20(a)(3) of this chapter. A provisionally certified monitoring system may be used under the TR SO_2 Group 2 Trading Program for a period not to exceed 120 days after receipt by the Administrator of the complete certification application for the monitoring system under paragraph (d)(3)(ii) of this section. Data measured and recorded by the provisionally certified monitoring system, in accordance with the requirements of part 75 of this chapter, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the Administrator does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of the date of receipt of the complete certification application by the Administrator.

(iv) Certification application approval process. The Administrator will issue a written notice of approval or

disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under paragraph (d)(3)(ii) of this section. In the event the Administrator does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of part 75 of this chapter and is included in the certification application will be deemed certified for use under the TR SO_2 Group 2 Trading Program.

(A) Approval notice. If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of part 75 of this chapter, then the Administrator will issue a written notice of approval of the certification application within 120 days of receipt.

(B) Incomplete application notice. If the certification application is not complete, then the Administrator will issue a written notice of incompleteness that sets a reasonable date by which the designated representative must submit the additional information required to complete the certification application. If the designated representative does not comply with the notice of incompleteness by the specified date, then the Administrator may issue a notice of disapproval under paragraph (d)(3)(iv)(C) of this section.

(C) Disapproval notice. If the certification application shows that any monitoring system does not meet the performance requirements of part 75 of this chapter or if the certification application is incomplete and the requirement for disapproval under paragraph (d)(3)(iv)(B) of this section is met, then the Administrator will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the Administrator and the data measured and recorded by each uncertified monitoring system shall not be considered valid quality-assured data beginning with the date and hour of provisional certification (as defined under § 75.20(a)(3) of this chapter).

(D) Audit decertification. The Administrator may issue a notice of disapproval of the certification status of a monitor in accordance with § 97.732(b).

(v) Procedures for loss of certification. If the Administrator issues a notice of disapproval of a certification application under paragraph (d)(3)(iv)(C) of this section or a notice of disapproval of certification status under paragraph (d)(3)(iv)(D) of this section, then:

(A) The owner or operator shall substitute the following values, for each disapproved monitoring system, for each hour of unit operation during the period of invalid data specified under § 75.20(a)(4)(iii), § 75.20(g)(7), or § 75.21(e) of this chapter and continuing until the applicable date and hour specified under § 75.20(a)(5)(i) or (g)(7) of this chapter:

(1) For a disapproved SO_2 pollutant concentration monitor and disapproved flow monitor, respectively, the maximum potential concentration of SO_2 and the maximum potential flow rate, as defined in sections 2.1.1.1 and 2.1.4.1 of appendix A to part 75 of this chapter.

(2) For a disapproved moisture monitoring system and disapproved diluent gas monitoring system, respectively, the minimum potential moisture percentage and either the maximum potential CO_2 concentration or the minimum potential O_2 concentration (as applicable), as defined in sections 2.1.5, 2.1.3.1, and 2.1.3.2 of appendix A to part 75 of this chapter.

(3) For a disapproved fuel flowmeter system, the maximum potential fuel flow rate, as defined in section 2.4.2.1 of appendix D to part 75 of this chapter.

(B) The designated representative shall submit a notification of certification retest dates and a new certification application in accordance with paragraphs (d)(3)(i) and (ii) of this section.

(C) The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the Administrator's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

(e) The owner or operator of a unit qualified to use the low mass emissions (LME) excepted methodology under

§ 75.19 of this chapter shall meet the applicable certification and recertification requirements in §§ 75.19(a)(2) and 75.20(h) of this chapter. If the owner or operator of such a unit elects to certify a fuel flowmeter system for heat input determination, the owner or operator shall also meet the certification and recertification requirements in § 75.20(g) of this chapter.

(f) The designated representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator under subpart E of part 75 of this chapter shall comply with the applicable notification and application procedures of § 75.20(f) of this chapter.

§ 97.732 Monitoring system out-of-control periods.

(a) *General provisions.* Whenever any monitoring system fails to meet the quality-assurance and quality-control requirements or data validation requirements of part 75 of this chapter, data shall be substituted using the applicable missing data procedures in subpart D or appendix D to part 75 of this chapter.

(b) *Audit decertification.* Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under § 97.731 or the applicable provisions of part 75 of this chapter, both at the time of the initial certification or recertification application submission and at the time of the audit, the Administrator will issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the Administrator or any State or permitting authority. By issuing the notice of disapproval, the Administrator revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the applicable initial certification or recertification procedures in § 97.731 for each disapproved monitoring system.

§ 97.733 Notifications concerning monitoring.

The designated representative of a TR SO_2 Group 2 unit shall submit written notice to the Administrator in accordance with § 75.61 of this chapter.

§ 97.734 Recordkeeping and reporting.

(a) *General provisions.* The designated representative shall comply with all recordkeeping and reporting requirements in paragraphs (b) through (e) of this section, the applicable recordkeeping and reporting requirements in subparts F and G of part 75 of this chapter, and the requirements of § 97.714(a).

(b) *Monitoring plans.* The owner or operator of a TR SO_2 Group 2 unit shall comply with requirements of § 75.62 of this chapter.

(c) *Certification applications.* The designated representative shall submit an application to the Administrator within 45 days after completing all initial certification or recertification tests required under § 97.731, including the information required under § 75.63 of this chapter.

(d) *Quarterly reports.* The designated representative shall submit quarterly reports, as follows:

(1) The designated representative shall report the SO_2 mass emissions data and heat input data for the TR SO_2 Group 2 unit, in an electronic quarterly report in a format prescribed by the Administrator, for each calendar quarter beginning with:

(i) For a unit that commences commercial operation before July 1, 2014, the calendar quarter covering January 1, 2015 through March 31, 2015; or

(ii) For a unit that commences commercial operation on or after July 1, 2014, the calendar quarter corresponding to the earlier of the date of provisional certification or the applicable deadline for initial certification

under § 97.730(b), unless that quarter is the third or fourth quarter of 2014, in which case reporting shall commence in the quarter covering January 1, 2015 through March 31, 2015.

(2) The designated representative shall submit each quarterly report to the Administrator within 30 days after the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in § 75.64 of this chapter.

(3) For TR SO_2 Group 2 units that are also subject to the Acid Rain Program, TR NO_X Annual Trading Program, or TR NO_X Ozone Season Trading Program, quarterly reports shall include the applicable data and information required by subparts F through H of part 75 of this chapter as applicable, in addition to the SO_2 mass emission data, heat input data, and other information required by this subpart.

(4) The Administrator may review and conduct independent audits of any quarterly report in order to determine whether the quarterly report meets the requirements of this subpart and part 75 of this chapter, including the requirement to use substitute data.

(i) The Administrator will notify the designated representative of any determination that the quarterly report fails to meet any such requirements and specify in such notification any corrections that the Administrator believes are necessary to make through resubmission of the quarterly report and a reasonable time period within which the designated representative must respond. Upon request by the designated representative, the Administrator may specify reasonable extensions of such time period. Within the time period (including any such extensions) specified by the Administrator, the designated representative shall resubmit the quarterly report with the corrections specified by the Administrator, except to the extent the designated representative provides information demonstrating that a specified correction is not necessary because the quarterly report already meets the requirements of this subpart and part 75 of this chapter that are relevant to the specified correction.

(ii) Any resubmission of a quarterly report shall meet the requirements applicable to the submission of a quarterly report under this subpart and part 75 of this chapter, except for the deadline set forth in paragraph (d)(2) of this section.

(e) *Compliance certification*. The designated representative shall submit to the Administrator a compliance certification (in a format prescribed by the Administrator) in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(1) The monitoring data submitted were recorded in accordance with the applicable requirements of this subpart and part 75 of this chapter, including the quality assurance procedures and specifications; and

(2) For a unit with add-on SO_2 emission controls and for all hours where SO_2 data are substituted in accordance with § 75.34(a)(1) of this chapter, the add-on emission controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B to part 75 of this chapter and the substitute data values do not systematically underestimate SO_2 emissions.

[76 FR 48379, Aug. 8, 2011, as amended at 79 FR 71672, Dec. 3, 2014]

§ 97.735 Petitions for alternatives to monitoring, recordkeeping, or reporting requirements.

(a) The designated representative of a TR SO_2 Group 2 unit may submit a petition under § 75.66 of this chapter to the Administrator, requesting approval to apply an alternative to any requirement of §§ 97.730 through 97.734.

(b) A petition submitted under paragraph (a) of this section shall include sufficient information for the evaluation of the petition, including, at a minimum, the following information:

(i) Identification of each unit and source covered by the petition;

(ii) A detailed explanation of why the proposed alternative is being suggested in lieu of the requirement;

(iii) A description and diagram of any equipment and procedures used in the proposed alternative;

(iv) A demonstration that the proposed alternative is consistent with the purposes of the requirement for which the alternative is proposed and with the purposes of this subpart and part 75 of this chapter and that any adverse effect of approving the alternative will be *de minimis;* and

(v) Any other relevant information that the Administrator may require.

(c) Use of an alternative to any requirement referenced in paragraph (a) of this section is in accordance with this subpart only to the extent that the petition is approved in writing by the Administrator and that such use is in accordance with such approval.

APPENDIX A TO PART 97—FINAL SECTION 126 RULE: EGU ALLOCATIONS, 2004–2007

ST	Plant	Plant_id	Point_id	NO_X allocation for EGUs
DC	BENNING	603	15	80
DC	BENNING	603	16	117
DE	CHRISTIANA SUB	591	11	5
DE	CHRISTIANA SUB	591	14	5
DE	DELAWARE CITY	52193	B4	141
DE	DELAWARE CITY	52193	ST___	155
DE	DELAWARE CITY	52193	ST___	159
DE	DELAWARE CITY	52193	ST___	158
DE	EDGE MOOR	593	3	234
DE	EDGE MOOR	593	4	401
DE	EDGE MOOR	593	5	602
DE	HAY ROAD	7153	**3	184
DE	HAY ROAD	7153	—1	235
DE	HAY ROAD	7153	—2	207
DE	INDIAN RIVER	594	1	187
DE	INDIAN RIVER	594	2	194
DE	INDIAN RIVER	594	3	369
DE	INDIAN RIVER	594	4	729
DE	MCKEE RUN	599	3	119
DE	VAN SANT STATION	7318	**11	7
IN	ANDERSON	7336	—ACT1	5
IN	ANDERSON	7336	—ACT2	5
IN	CLIFTY CREEK	983	1	558
IN	CLIFTY CREEK	983	2	543
IN	CLIFTY CREEK	983	3	564
IN	CLIFTY CREEK	983	4	525
IN	CLIFTY CREEK	983	5	561
IN	CLIFTY CREEK	983	6	509
IN	CONNERSVILLE	1002	1	1
IN	CONNERSVILLE	1002	2	1
IN	GALLAGHER	1008	1	290
IN	GALLAGHER	1008	2	276
IN	GALLAGHER	1008	3	347
IN	GALLAGHER	1008	4	329
IN	NOBLESVILLE	1007	1	48
IN	NOBLESVILLE	1007	2	45
IN	NOBLESVILLE	1007	3	45
IN	RICHMOND	7335	—RCT1	5
IN	RICHMOND	7335	—RCT2	5
IN	TANNERS CREEK	988	U1	297
IN	TANNERS CREEK	988	U2	235
IN	TANNERS CREEK	988	U3	387
IN	TANNERS CREEK	988	U4	906
IN	WHITEWATER VALLEY	1040	1	74
IN	WHITEWATER VALLEY	1040	2	173
KY	BIG SANDY	1353	BSU1	565
KY	BIG SANDY	1353	BSU2	1,741
KY	CANE RUN	1363	4	397
KY	CANE RUN	1363	5	332
KY	CANE RUN	1363	6	430
KY	COOPER	1384	1	183
KY	COOPER	1384	2	367
KY	DALE	1385	3	161
KY	DALE	1385	4	158
KY	E W BROWN	1355	1	193
KY	E W BROWN	1355	10	37
KY	E W BROWN	1355	2	317

ST	Plant	Plant_id	Point_id	NO_X allocation for EGUs
KY	E W BROWN	1355	3	863
KY	E W BROWN	1355	8	34
KY	E W BROWN	1355	9	34
KY	E.W. BROWN	1355	11	21
KY	EAST BEND	6018	2	1,413
KY	GHENT	1356	1	1,232
KY	GHENT	1356	2	1,081
KY	GHENT	1356	3	1,104
KY	GHENT	1356	4	1,132
KY	H L SPURLOCK	6041	1	697
KY	H L SPURLOCK	6041	2	1,589
KY	MILL CREEK	1364	1	528
KY	MILL CREEK	1364	2	600
KY	MILL CREEK	1364	3	941
KY	MILL CREEK	1364	4	1,096
KY	PADDY'S RUN	1366	12	8
KY	PINEVILLE	1360	3	67
KY	TRIMBLE COUNTY	6071	1	1,221
KY	TYRONE	1361	1	3
KY	TYRONE	1361	2	3
KY	TYRONE	1361	3	3
KY	TYRONE	1361	4	3
KY	TYRONE	1361	5	117
MD	BRANDON SHORES	602	1	1,827
MD	BRANDON SHORES	602	2	1,713
MD	C P CRANE	1552	1	434
MD	C P CRANE	1552	2	463
MD	CHALK POINT	1571	—GT2	1
MD	CHALK POINT	1571	—GT3	36
MD	CHALK POINT	1571	—GT4	39
MD	CHALK POINT	1571	—GT5	55
MD	CHALK POINT	1571	—GT6	60
MD	CHALK POINT	1571	—SGT1	24
MD	CHALK POINT	1571	1	833
MD	CHALK POINT	1571	2	861
MD	CHALK POINT	1571	3	585
MD	CHALK POINT	1571	4	522
MD	DICKERSON	1572	—GT2	36
MD	DICKERSON	1572	—GT3	66
MD	DICKERSON	1572	1	447
MD	DICKERSON	1572	2	441
MD	DICKERSON	1572	3	481
MD	GOULD STREET	1553	3	81
MD	HERBERT A WAGNER	1554	1	134
MD	HERBERT A WAGNER	1554	2	399
MD	HERBERT A WAGNER	1554	3	723
MD	HERBERT A WAGNER	1554	4	301
MD	MORGANTOWN	1573	—GT3	9
MD	MORGANTOWN	1573	—GT4	9
MD	MORGANTOWN	1573	—GT5	9
MD	MORGANTOWN	1573	—GT6	8
MD	MORGANTOWN	1573	1	1,151
MD	MORGANTOWN	1573	2	1,375
MD	PANDA BRANDYWINE	54832	1	95
MD	PANDA BRANDYWINE	54832	2	84
MD	PERRYMAN	1556	**51	56
MD	PERRYMAN	1556	—GT1	8
MD	PERRYMAN	1556	—GT2	9
MD	PERRYMAN	1556	—GT3	6
MD	PERRYMAN	1556	—GT4	10
MD	R P SMITH	1570	11	143
MD	R P SMITH	1570	9	11
MD	RIVERSIDE	1559	—GT6	11
MD	RIVERSIDE	1559	4	40
MD	VIENNA	1564	8	169
MD	WESTPORT	1560	—GT5	28
MI	ADA COGEN LTD	10819	CA_Ltd	23
MI	BELLE RIVER	6034	1	1,589
MI	BELLE RIVER	6034	2	1,672
MI	DAN E KARN	1702	1	552
MI	DAN E KARN	1702	2	530
MI	DAN E KARN	1702	3	288
MI	DAN E KARN	1702	4	310

ST	Plant	Plant_id	Point_id	NO_X allocation for EGUs
MI	ECKERT STATION	1831	1	52
MI	ECKERT STATION	1831	2	47
MI	ECKERT STATION	1831	3	65
MI	ECKERT STATION	1831	4	116
MI	ECKERT STATION	1831	5	154
MI	ECKERT STATION	1831	6	131
MI	ENDICOTT GENERATING STATION	4259	1	98
MI	ERICKSON	1832	1	381
MI	GREENWOOD	6035	1	373
MI	HANCOCK	1730	5	3
MI	HANCOCK	1730	6	3
MI	HARBOR BEACH	1731	1	97
MI	J C WEADOCK	1720	7	346
MI	J C WEADOCK	1720	8	342
MI	J R WHITING	1723	1	225
MI	J R WHITING	1723	2	204
MI	J R WHITING	1723	3	249
MI	JAMES DE YOUNG	1830	5	69
MI	MARYSVILLE	1732	10	22
MI	MARYSVILLE	1732	11	16
MI	MARYSVILLE	1732	12	17
MI	MARYSVILLE	1732	9	17
MI	MIDLAND COGENERATION VENTURE	10745	003	269
MI	MIDLAND COGENERATION VENTURE	10745	004	276
MI	MIDLAND COGENERATION VENTURE	10745	005	271
MI	MIDLAND COGENERATION VENTURE	10745	006	273
MI	MIDLAND COGENERATION VENTURE	10745	007	280
MI	MIDLAND COGENERATION VENTURE	10745	008	277
MI	MIDLAND COGENERATION VENTURE	10745	009	273
MI	MIDLAND COGENERATION VENTURE	10745	010	271
MI	MIDLAND COGENERATION VENTURE	10745	011	274
MI	MIDLAND COGENERATION VENTURE	10745	012	269
MI	MIDLAND COGENERATION VENTURE	10745	013	275
MI	MIDLAND COGENERATION VENTURE	10745	014	269
MI	MISTERSKY	1822	5	33
MI	MISTERSKY	1822	6	155
MI	MISTERSKY	1822	7	98
MI	MONROE	1733	1	1,902
MI	MONROE	1733	2	1,555
MI	MONROE	1733	3	1,574
MI	MONROE	1733	4	1,822
MI	RIVER ROUGE	1740	1	0
MI	RIVER ROUGE	1740	2	627
MI	RIVER ROUGE	1740	3	652
MI	ROUGE POWERHOUSE #1	10272	1	232
MI	ST CLAIR	1743	1	339
MI	ST CLAIR	1743	2	304
MI	ST CLAIR	1743	3	351
MI	ST CLAIR	1743	4	349
MI	ST CLAIR	1743	5	0
MI	ST CLAIR	1743	6	646
MI	ST CLAIR	1743	7	733
MI	TRENTON CHANNEL	1745	16	132
MI	TRENTON CHANNEL	1745	17	124
MI	TRENTON CHANNEL	1745	18	130
MI	TRENTON CHANNEL	1745	19	126
MI	TRENTON CHANNEL	1745	9A	968
MI	WYANDOTTE	1866	5	8
MI	WYANDOTTE	1866	7	81
MI	WYANDOTTE	1866	8	36
NC	ASHEVILLE	2706	1	491
NC	ASHEVILLE	2706	2	479
NC	BELEWS CREEK	8042	1	2,306
NC	BELEWS CREEK	8042	2	2,688
NC	BUCK	2720	5	59
NC	BUCK	2720	6	65
NC	BUCK	2720	7	69
NC	BUCK	2720	8	284
NC	BUCK	2720	9	300
NC	BUTLER WARNER GEN PL	1016	—1	40
NC	BUTLER WARNER GEN PL	1016	—2	40
NC	BUTLER WARNER GEN PL	1016	—3	40
NC	BUTLER WARNER GEN PL	1016	—6	42

ST	Plant	Plant_id	Point_id	NO_X allocation for EGUs
NC	BUTLER WARNER GEN PL	1016	—7	40
NC	BUTLER WARNER GEN PL	1016	—8	40
NC	BUTLER WARNER GEN PL	1016	—9	103
NC	CAPE FEAR	2708	5	255
NC	CAPE FEAR	2708	6	361
NC	CLIFFSIDE	2721	1	67
NC	CLIFFSIDE	2721	2	73
NC	CLIFFSIDE	2721	3	95
NC	CLIFFSIDE	2721	4	107
NC	CLIFFSIDE	2721	5	1,180
NC	COGENTRIX-ROCKY MOUNT	50468	ST_unt	303
NC	COGENTRIX ELIZABETHTOWN	10380	ST_OWN	111
NC	COGENTRIX KENANSVILLE	10381	ST_LLE	102
NC	COGENTRIX LUMBERTON	10382	ST_TON	111
NC	COGENTRIX ROXBORO	10379	ST_ORO	166
NC	COGENTRIX SOUTHPORT	10378	ST_ORT	335
NC	DAN RIVER	2723	1	117
NC	DAN RIVER	2723	2	128
NC	DAN RIVER	2723	3	271
NC	G G ALLEN	2718	1	311
NC	G G ALLEN	2718	2	316
NC	G G ALLEN	2718	3	525
NC	G G ALLEN	2718	4	470
NC	G G ALLEN	2718	5	514
NC	L V SUTTON	2713	1	162
NC	L V SUTTON	2713	2	176
NC	L V SUTTON	2713	3	717
NC	L V SUTTON	2713	CT2B	2
NC	LEE	2709	1	129
NC	LEE	2709	2	142
NC	LEE	2709	3	414
NC	LEE	2709	CT4	1
NC	LINCOLN	7277	1	33
NC	LINCOLN	7277	10	31
NC	LINCOLN	7277	11	33
NC	LINCOLN	7277	12	31
NC	LINCOLN	7277	13	26
NC	LINCOLN	7277	14	26
NC	LINCOLN	7277	15	25
NC	LINCOLN	7277	16	25
NC	LINCOLN	7277	2	33
NC	LINCOLN	7277	3	31
NC	LINCOLN	7277	4	31
NC	LINCOLN	7277	5	29
NC	LINCOLN	7277	6	30
NC	LINCOLN	7277	7	24
NC	LINCOLN	7277	8	25
NC	LINCOLN	7277	9	32
NC	MARSHALL	2727	1	899
NC	MARSHALL	2727	2	940
NC	MARSHALL	2727	3	1,588
NC	MARSHALL	2727	4	1,570
NC	MAYO	6250	1A	893
NC	MAYO	6250	1B	875
NC	PANDA-ROSEMARY	50555	CT_ary	62
NC	PANDA-ROSEMARY	50555	CW_ary	47
NC	RIVERBEND	2732	10	266
NC	RIVERBEND	2732	7	193
NC	RIVERBEND	2732	8	200
NC	RIVERBEND	2732	9	253
NC	ROANOKE VALLEY	50254	1	440
NC	ROANOKE VALLEY	50254	2	140
NC	ROXBORO	2712	1	766
NC	ROXBORO	2712	2	1,426
NC	ROXBORO	2712	3A	792
NC	ROXBORO	2712	3B	785
NC	ROXBORO	2712	4A	778
NC	ROXBORO	2712	4B	733
NC	TOBACCOVILLE	50221	1	53
NC	TOBACCOVILLE	50221	2	53
NC	TOBACCOVILLE	50221	3	53
NC	TOBACCOVILLE	50221	4	53
NC	UNC—CHAPEL HILL	54276	ST_ill	14

ST	Plant	Plant_id	Point_id	NO_X allocation for EGUs
NC	W H WEATHERSPOON	2716	1	76
NC	W H WEATHERSPOON	2716	2	86
NC	W H WEATHERSPOON	2716	3	161
NC	W H WEATHERSPOON	2716	CT–1	4
NC	W H WEATHERSPOON	2716	CT–2	3
NC	W H WEATHERSPOON	2716	CT–3	2
NC	W H WEATHERSPOON	2716	CT–4	4
NJ	B L ENGLAND	2378	1	353
NJ	B L ENGLAND	2378	2	417
NJ	B L ENGLAND	2378	3	114
NJ	BAYONNE	50497	1	139
NJ	BAYONNE	50497	2	143
NJ	BAYONNE	50497	3	140
NJ	BERGEN	2398	1101	152
NJ	BERGEN	2398	1201	157
NJ	BERGEN	2398	1301	155
NJ	BERGEN	2398	1401	152
NJ	BURLINGTON	2399	101	30
NJ	BURLINGTON	2399	102	34
NJ	BURLINGTON	2399	103	39
NJ	BURLINGTON	2399	104	47
NJ	BURLINGTON	2399	11–1	2
NJ	BURLINGTON	2399	11–2	2
NJ	BURLINGTON	2399	11–3	2
NJ	BURLINGTON	2399	11–4	2
NJ	BURLINGTON	2399	7	17
NJ	BURLINGTON	2399	9–1	4
NJ	BURLINGTON	2399	9–2	4
NJ	BURLINGTON	2399	9–3	4
NJ	BURLINGTON	2399	9–4	4
NJ	CAMDEN	10751	1	378
NJ	CARLL'S CORNER STATION	2379	1	2
NJ	CARLL'S CORNER STATION	2379	2	16
NJ	CARNEYS POINT (CCLP) NUG	10566	ST_NUG	527
NJ	CEDAR STATION	2380	1E&W	5
NJ	CUMBERLAND	5083	—GT1	40
NJ	DEEPWATER	2384	1	49
NJ	DEEPWATER	2384	4	5
NJ	DEEPWATER	2384	6	42
NJ	DEEPWATER	2384	8	195
NJ	EDISON	2400	1–1A&B	3
NJ	EDISON	2400	1–2A&B	3
NJ	EDISON	2400	1–3A&B	3
NJ	EDISON	2400	1–4A&B	3
NJ	EDISON	2400	2–1A&B	7
NJ	EDISON	2400	2–2A&B	7
NJ	EDISON	2400	2–3A&B	7
NJ	EDISON	2400	2–4A&B	7
NJ	EDISON	2400	3–1A&B	7
NJ	EDISON	2400	3–2A&B	7
NJ	EDISON	2400	3–3A&B	7
NJ	EDISON	2400	3–4A&B	7
NJ	ESSEX	2401	10–1A&B	10
NJ	ESSEX	2401	10–2A&B	10
NJ	ESSEX	2401	10–3A&B	10
NJ	ESSEX	2401	10–4A&B	10
NJ	ESSEX	2401	11–1A&B	11
NJ	ESSEX	2401	11–2A&B	11
NJ	ESSEX	2401	11–3A&B	11
NJ	ESSEX	2401	11–4A&B	11
NJ	ESSEX	2401	12–1A&B	13
NJ	ESSEX	2401	12–2A&B	13
NJ	ESSEX	2401	12–3A&B	13
NJ	ESSEX	2401	12–4A&B	13
NJ	ESSEX	2401	9	66
NJ	FORKED RIVER	7138	—1	17
NJ	FORKED RIVER	7138	—2	17
NJ	GILBERT	2393	03	47
NJ	GILBERT	2393	04	64
NJ	GILBERT	2393	05	63
NJ	GILBERT	2393	06	61
NJ	GILBERT	2393	07	63
NJ	GILBERT	2393	1	4

ST	Plant	Plant_id	Point_id	NO_X allocation for EGUs
NJ	GILBERT	2393	2	4
NJ	GILBERT	2393	CT–9	61
NJ	HUDSON	2403	1	175
NJ	HUDSON	2403	2	884
NJ	HUDSON	2403	3	3
NJ	KEARNY	2404	10	26
NJ	KEARNY	2404	11	34
NJ	KEARNY	2404	12–1	8
NJ	KEARNY	2404	12–2	8
NJ	KEARNY	2404	12–3	8
NJ	KEARNY	2404	12–4	8
NJ	KEARNY	2404	7	35
NJ	KEARNY	2404	8	16
NJ	LINDEN	2406	11	16
NJ	LINDEN	2406	12	11
NJ	LINDEN	2406	13	20
NJ	LINDEN	2406	2	52
NJ	LINDEN	2406	6	2
NJ	LINDEN	2406	7	60
NJ	LINDEN	2406	8	70
NJ	LINDEN COGEN	50006	100	276
NJ	LINDEN COGEN	50006	200	280
NJ	LINDEN COGEN	50006	300	274
NJ	LINDEN COGEN	50006	400	272
NJ	LINDEN COGEN	50006	500	278
NJ	LOGAN GENERATING PLANT	10043	1	424
NJ	MERCER	2408	1	489
NJ	MERCER	2408	2	558
NJ	MICKELTON	8008	1	28
NJ	MIDDLE ST	2382	3	4
NJ	MILFORD POWER LP	10616	1	44
NJ	MOBIL NUG	n114	CT_NUG	40
NJ	NEWARK BAY COGEN	50385	1	9
NJ	NEWARK BAY COGEN	50385	2	9
NJ	NORTH JERSEY ENERGY ASSOCIATES	10308	1	19
NJ	NORTH JERSEY ENERGY ASSOCIATES	10308	2	19
NJ	O'BRIEN (NEWARK) COGENERATION, INC.	50797	1	8
NJ	O'BRIEN (PARLIN) COGENERATION, INC.	50799	1	8
NJ	O'BRIEN (PARLIN) COGENERATION, INC.	50799	2	8
NJ	PEDRICKTOWN COGEN	10099	1	13
NJ	PRIME ENERGY LP	50852	1	178
NJ	SALEM	2410	3A&B	3
NJ	SAYREVILLE	2390	07	40
NJ	SAYREVILLE	2390	08	51
NJ	SAYREVILLE	2390	C–1	16
NJ	SAYREVILLE	2390	C–2	13
NJ	SAYREVILLE	2390	C–3	11
NJ	SAYREVILLE	2390	C–4	13
NJ	SEWAREN	2411	1	42
NJ	SEWAREN	2411	2	45
NJ	SEWAREN	2411	3	58
NJ	SEWAREN	2411	4	91
NJ	SEWAREN	2411	6	2
NJ	SHERMAN	7288	CT–1	37
NJ	VINELAND VCLP NUG	54807	GT_NUG	40
NJ	WERNER	2385	04	14
NJ	WERNER	2385	C–1	7
NJ	WERNER	2385	C–2	6
NJ	WERNER	2385	C–3	7
NJ	WERNER	2385	C–4	7
NJ	WEST STAT	6776	1	10
NY	59TH STREET	2503	114	41
NY	59TH STREET	2503	115	32
NY	74TH STREET	2504	120	70
NY	74TH STREET	2504	121	80
NY	74TH STREET	2504	122	65
NY	ARTHUR KILL	2490	20	524
NY	ARTHUR KILL	2490	30	380
NY	ASTORIA	8906	30	557
NY	ASTORIA	8906	40	505
NY	ASTORIA	8906	50	561
NY	ASTORIA	8906	GT2–1	9
NY	ASTORIA	8906	GT2–2	9

ST	Plant	Plant_id	Point_id	NO_X allocation for EGUs
NY	ASTORIA	8906	GT2–3	9
NY	ASTORIA	8906	GT2–4	9
NY	ASTORIA	8906	GT3–1	9
NY	ASTORIA	8906	GT3–2	9
NY	ASTORIA	8906	GT3–3	9
NY	ASTORIA	8906	GT3–4	9
NY	ASTORIA	8906	GT4–1	9
NY	ASTORIA	8906	GT4–2	9
NY	ASTORIA	8906	GT4–3	9
NY	ASTORIA	8906	GT4–4	9
NY	BOWLINE POINT	2625	1	749
NY	BOWLINE POINT	2625	2	566
NY	BROOKLYN NAVY YARD	54914	1	239
NY	BROOKLYN NAVY YARD	54914	2	220
NY	CHARLES POLETTI	2491	001	883
NY	DANSKAMMER	2480	1	34
NY	DANSKAMMER	2480	2	45
NY	DANSKAMMER	2480	3	229
NY	DANSKAMMER	2480	4	449
NY	EF BARRETT	2511	10	285
NY	EF BARRETT	2511	20	287
NY	EAST RIVER	2493	50	33
NY	EAST RIVER	2493	60	319
NY	EAST RIVER	2493	70	113
NY	FAR ROCKAWAY	2513	40	138
NY	GLENWOOD	2514	40	151
NY	GLENWOOD	2514	50	124
NY	GLENWOOD	2514	U00020	1
NY	GLENWOOD	2514	U00021	1
NY	HUDSON AVENUE	2496	100	162
NY	LOVETT	2629	3	74
NY	LOVETT	2629	4	304
NY	LOVETT	2629	5	380
NY	NISSEQUOGUE COGEN PARTNERS	4931	1	86
NY	NORTHPORT	2516	1	343
NY	NORTHPORT	2516	2	533
NY	NORTHPORT	2516	3	375
NY	NORTHPORT	2516	4	582
NY	O&R HILLBURN GT	2628	1	2
NY	O&R SHOEMAKER GT	2632	1	10
NY	PORT JEFFERSON	2517	3	270
NY	PORT JEFFERSON	2517	4	253
NY	RAVENSWOOD	2500	10	299
NY	RAVENSWOOD	2500	20	363
NY	RAVENSWOOD	2500	30	1,360
NY	RAVENSWOOD	2500	GT2–1	3
NY	RAVENSWOOD	2500	GT2–2	3
NY	RAVENSWOOD	2500	GT2–3	3
NY	RAVENSWOOD	2500	GT2–4	3
NY	RAVENSWOOD	2500	GT3–1	3
NY	RAVENSWOOD	2500	GT3–2	3
NY	RAVENSWOOD	2500	GT3–3	3
NY	RAVENSWOOD	2500	GT3–4	3
NY	RICHARD M FLYNN	7314	NA1	246
NY	RICHARD M FLYNN	7314	NA2	25
NY	ROSETON	8006	1	479
NY	ROSETON	8006	2	595
NY	TRIGEN-NDEC	52056	4	105
NY	WADING RIVER	7146	1	8
NY	WADING RIVER	7146	2	8
NY	WADING RIVER	7146	3	8
NY	WADING RIVER	7146	UGT013	1
NY	WATERSIDE	2502	61	84
NY	WATERSIDE	2502	62	91
NY	WATERSIDE	2502	80	208
NY	WATERSIDE	2502	90	208
NY	WEST BABYLON	2521	1	2
OH	ASHTABULA	2835	10	75
OH	ASHTABULA	2835	11	80
OH	ASHTABULA	2835	7	333
OH	ASHTABULA	2835	8	70
OH	ASHTABULA	2835	9	66
OH	AVON LAKE	2836	10	139

ST	Plant	Plant_id	Point_id	NO_X allocation for EGUs
OH	AVON LAKE	2836	12	1,040
OH	AVON LAKE	2836	9	41
OH	AVON LAKE	2836	CT10	3
OH	BAY SHORE	2878	1	208
OH	BAY SHORE	2878	2	229
OH	BAY SHORE	2878	3	213
OH	BAY SHORE	2878	4	330
OH	CARDINAL	2828	1	1,030
OH	CARDINAL	2828	2	1,083
OH	CARDINAL	2828	3	1,079
OH	CONESVILLE	2840	1	214
OH	CONESVILLE	2840	2	203
OH	CONESVILLE	2840	3	212
OH	CONESVILLE	2840	4	1,119
OH	CONESVILLE	2840	5	731
OH	CONESVILLE	2840	6	736
OH	DICKS CREEK	2831	1	7
OH	EASTLAKE	2837	1	214
OH	EASTLAKE	2837	2	230
OH	EASTLAKE	2837	3	251
OH	EASTLAKE	2837	4	371
OH	EASTLAKE	2837	5	974
OH	EASTLAKE	2837	6	1
OH	EDGEWATER	2857	13	65
OH	EDGEWATER	2857	A	1
OH	EDGEWATER	2857	B	1
OH	FRANK M TAIT	2847	GT1	23
OH	FRANK M TAIT	2847	GT2	25
OH	GEN J M GAVIN	8102	1	2,744
OH	GEN J M GAVIN	8102	2	2,981
OH	HAMILTON	2917	9	110
OH	J M STUART	2850	1	1,054
OH	J M STUART	2850	2	1,228
OH	J M STUART	2850	3	1,074
OH	J M STUART	2850	4	1,106
OH	KILLEN STATION	6031	2	1,706
OH	KYGER CREEK	2876	1	471
OH	KYGER CREEK	2876	2	471
OH	KYGER CREEK	2876	3	478
OH	KYGER CREEK	2876	4	465
OH	KYGER CREEK	2876	5	455
OH	LAKE SHORE	2838	18	195
OH	MAD RIVER	2860	A	2
OH	MAD RIVER	2860	B	2
OH	MIAMI FORT	2832	5–1	35
OH	MIAMI FORT	2832	5–2	35
OH	MIAMI FORT	2832	6	398
OH	MIAMI FORT	2832	7	1,044
OH	MIAMI FORT	2832	8	1,015
OH	MIAMI FORT	2832	CT2	1
OH	MUSKINGUM RIVER	2872	1	309
OH	MUSKINGUM RIVER	2872	2	316
OH	MUSKINGUM RIVER	2872	3	347
OH	MUSKINGUM RIVER	2872	4	349
OH	MUSKINGUM RIVER	2872	5	1,105
OH	NILES	2861	1	212
OH	NILES	2861	2	160
OH	NILES	2861	A	2
OH	O H HUTCHINGS	2848	H–1	24
OH	O H HUTCHING	2848	H–2	37
OH	O H HUTCHINGS	2848	H–3	64
OH	O H HUTCHINGS	2848	H–4	68
OH	O H HUTCHINGS	2848	H–5	62
OH	O H HUTCHINGS	2848	H–6	69
OH	O H HUTCHINGS	2848	H–7	1
OH	PICWAY	2843	9	141
OH	R E BURGER	2864	1	0
OH	R E BURGER	2864	2	0
OH	R E BURGER	2864	3	0
OH	R E BURGER	2864	4	0
OH	R E BURGER	2864	5	14
OH	R E BURGER	2864	6	13
OH	R E BURGER	2864	7	337

ST	Plant	Plant_id	Point_id	NO_X allocation for EGUs
OH	R E BURGER	2864	8	274
OH	RICHARD GORSUCH	7286	1	146
OH	RICHARD GORSUCH	7286	2	138
OH	RICHARD GORSUCH	7286	3	144
OH	RICHARD GORSUCH	7286	4	146
OH	W H SAMMIS	2866	1	402
OH	W H SAMMIS	2866	2	418
OH	W H SAMMIS	2866	3	400
OH	W H SAMMIS	2866	4	415
OH	W H SAMMIS	2866	5	631
OH	W H SAMMIS	2866	6	1,221
OH	W H SAMMIS	2866	7	1,259
OH	W H ZIMMER	6019	1	2,918
OH	WALTER C BECKJORD	2830	1	167
OH	WALTER C BECKJORD	2830	2	198
OH	WALTER C BECKJORD	2830	3	281
OH	WALTER C BECKJORD	2830	4	347
OH	WALTER C BECKJORD	2830	5	481
OH	WALTER C BECKJORD	2830	6	850
OH	WALTER C BECKJORD	2830	CT1	3
OH	WALTER C BECKJORD	2830	CT2	3
OH	WALTER C BECKJORD	2830	CT3	4
OH	WALTER C BECKJORD	2830	CT4	2
OH	WEST LORAIN	2869	1A	0
OH	WEST LORAIN	2869	1B	0
OH	WOODSDALE	7158	—GT1	30
OH	WOODSDALE	7158	—GT2	30
OH	WOODSDALE	7158	—GT3	39
OH	WOODSDALE	7158	—GT4	37
OH	WOODSDALE	7158	—GT5	40
OH	WOODSDALE	7158	—GT6	39
PA	AES BEAVER VALLEY	10676	032	144
PA	AES BEAVER VALLEY	10676	033	131
PA	AES BEAVER VALLEY	10676	034	133
PA	AES BEAVER VALLEY	10676	035	67
PA	ARMSTRONG	3178	1	363
PA	ARMSTRONG	3178	2	383
PA	BRUCE MANSFIELD	6094	1	1,657
PA	BRUCE MANSFIELD	6094	2	1,672
PA	BRUCE MANSFIELD	6094	3	1,636
PA	BRUNNER ISLAND	3140	1	568
PA	BRUNNER ISLAND	3140	2	718
PA	BRUNNER ISLAND	3140	3	1,539
PA	BRUNOT ISLAND	3096	2A	0
PA	BRUNOT ISLAND	3096	2B	0
PA	BRUNOT ISLAND	3096	3	0
PA	CAMBRIA COGEN	10641	1	155
PA	CAMBRIA COGEN	10641	2	161
PA	CHESWICK	8226	1	1,119
PA	COLVER POWER PROJECT	10143	1	291
PA	CONEMAUGH	3118	1	2,167
PA	CONEMAUGH	3118	2	1,995
PA	CROMBY	3159	1	377
PA	CROMBY	3159	2	201
PA	DELAWARE	3160	71	61
PA	DELAWARE	3160	81	56
PA	EBENSBURG POWER	10603	1	191
PA	EDDYSTONE	3161	1	565
PA	EDDYSTONE	3161	2	636
PA	EDDYSTONE	3161	3	207
PA	EDDYSTONE	3161	4	237
PA	ELRAMA	3098	1	214
PA	ELRAMA	3098	2	209
PA	ELRAMA	3098	3	208
PA	ELRAMA	3098	4	428
PA	FOSTER WHEELER MT. CARMEL	10343	AB_NUG	152
PA	GILBERTON POWER NUG	010113	AB_NUG	273
PA	GPU GENCO WAYNE	3134	1	8
PA	HATFIELD'S FERRY	3179	1	1,155
PA	HATFIELD'S FERRY	3179	2	1,029
PA	HATFIELD'S FERRY	3179	3	1,087
PA	HOLTWOOD	3145	17	246
PA	HOMER CITY	3122	1	1,471

ST	Plant	Plant_id	Point_id	NO_X allocation for EGUs
PA	HOMER CITY	3122	2	1,553
PA	HOMER CITY	3122	3	1,437
PA	HUNLOCK PWR STATION	3176	6	131
PA	KEYSTONE	3136	1	2,154
PA	KEYSTONE	3136	2	2,133
PA	KIMBERLY-CLARK	3157	10	211
PA	MARTINS CREEK	3148	1	314
PA	MARTINS CREEK	3148	2	293
PA	MARTINS CREEK	3148	3	543
PA	MARTINS CREEK	3148	4	500
PA	MITCHELL	3181	1	10
PA	MITCHELL	3181	2	6
PA	MITCHELL	3181	3	9
PA	MITCHELL	3181	33	556
PA	MONTOUR	3149	1	1,560
PA	MONTOUR	3149	2	1,673
PA	MOUNTAIN	3111	1	5
PA	MOUNTAIN	3111	2	5
PA	NEW CASTLE	3138	3	190
PA	NEW CASTLE	3138	4	195
PA	NEW CASTLE	3138	5	245
PA	NORCON POWER PARTNERS LP	54571	1	103
PA	NORCON POWER PARTNERS LP	54571	2	109
PA	NORTHAMPTION GENERATING	50888	1	291
PA	NORTHEASTERN POWER	50039		188
PA	PANTHER CREEK	50776	1	134
PA	PANTHER CREEK	50776	2	130
PA	PECO ENERGY CROYDEN	8012	11	11
PA	PECO ENERGY CROYDEN	8012	12	9
PA	PECO ENERGY CROYDEN	8012	21	5
PA	PECO ENERGY CROYDEN	8012	22	11
PA	PECO ENERGY CROYDEN	8012	31	13
PA	PECO ENERGY CROYDEN	8012	32	6
PA	PECO ENERGY CROYDEN	8012	41	11
PA	PECO ENERGY CROYDEN	8012	42	9
PA	PECO ENERGY RICHMOND	3168	91	10
PA	PECO ENERGY RICHMOND	3168	92	9
PA	PHILLIPS POWER STATION	3099	3	0
PA	PHILLIPS POWER STATION	3099	4	0
PA	PHILLIPS POWER STATION	3099	5	0
PA	PHILLIPS POWER STATION	3099	6	0
PA	PINEY CREEK	54144	1	102
PA	PORTLAND	3113	—5	48
PA	PORTLAND	3113	1	266
PA	PORTLAND	3113	2	412
PA	SCHUYLKILL	3169	1	84
PA	SCHUYLKILL ENERGY RESOURCES	880010	1	289
PA	SCHUYLKILL STATION (TURBI	50607	AB_NUG	701
PA	SCRUBGRASS GENERATING PLANT	50974	1	124
PA	SCRUBGRASS GENERATING PLANT	50974	2	123
PA	SEWARD	3130	12	64
PA	SEWARD	3130	14	72
PA	SEWARD	3130	15	355
PA	SHAWVILLE	3131	1	295
PA	SHAWVILLE	3131	2	294
PA	SHAWVILLE	3131	3	380
PA	SHAWVILLE	3131	4	392
PA	SUNBURY	3152	1A	134
PA	SUNBURY	3152	1B	122
PA	SUNBURY	3152	2A	130
PA	SUNBURY	3152	2B	134
PA	SUNBURY	3152	3	263
PA	SUNBURY	3152	4	302
PA	TITUS	3115	1	161
PA	TITUS	3115	2	152
PA	TITUS	3115	3	151
PA	TOLNA	3116	1	3
PA	TOLNA	3116	2	4
PA	TRIGEN ENERGY SANSOM	880006	1	12
PA	TRIGEN ENERGY SANSOM	880006	2	10
PA	TRIGEN ENERGY SANSOM	880006	3	5
PA	TRIGEN ENERGY SANSOM	880006	4	6
PA	WARREN	3132	1	47

ST	Plant	Plant_id	Point_id	NO_X allocation for EGUs
PA	WARREN	3132	2	32
PA	WARREN	3132	3	40
PA	WARREN	3132	4	42
PA	WARREN	3132	CT1	14
PA	WESTWOOD ENERGY PROPERTIE	50611	031	98
PA	WHEELABRATOR FRACKVILLE E	50879	GEN1	161
PA	WILLIAMS GEN—HAZELTON	10870	HRSG	16
PA	WILLIAMS GEN—HAZELTON	10870	TURBN	141
VA	BELLMEADE	7696	1	76
VA	BELLMEADE	7696	2	88
VA	BREMO BLUFF	3796	3	137
VA	BREMO BLUFF	3796	4	386
VA	CHESAPEAKE	3803	1	298
VA	CHESAPEAKE	3803	2	308
VA	CHESAPEAKE	3803	3	370
VA	CHESAPEAKE	3803	4	571
VA	CHESAPEAKE CORP.	10017	ST_rp.	59
VA	CHESTERFIELD	3797	—8	263
VA	CHESTERFIELD	3797	3	232
VA	CHESTERFIELD	3797	4	389
VA	CHESTERFIELD	3797	5	769
VA	CHESTERFIELD	3797	6	1,348
VA	CHESTERFIELD	3797	7	316
VA	CLINCH RIVER	3775	1	548
VA	CLINCH RIVER	3775	2	520
VA	CLINCH RIVER	3775	3	575
VA	CLOVER	7213	1	1,033
VA	CLOVER	7213	2	1,118
VA	COGENTRIX—HOPEWELL	10377	ST_ell	327
VA	COGENTRIX—PORTSMOUTH	10071	ST_uth	356
VA	COGENTRIX RICHMOND 1	54081	ST_d 1	299
VA	COGENTRIX RICHMOND 2	54081	ST_d 2	209
VA	COMMONWEALTH ATLANTIC LP	52087	GT_LP	35
VA	DARBYTOWN	7212	—1	29
VA	DARBYTOWN	7212	—2	28
VA	DARBYTOWN	7212	—3	30
VA	DARBYTOWN	7212	—4	29
VA	DOSWELL #1	52019	CA_#1	46
VA	DOSWELL #1	52019	CT_#1	94
VA	DOSWELL #2	52019	CA_#2	46
VA	DOSWELL #2	52019	CT_#2	94
VA	GLEN LYN	3776	51	101
VA	GLEN LYN	3776	52	110
VA	GLEN LYN	3776	6	487
VA	GORDONSVILLE 1	54844	CA_e 1	16
VA	GORDONSVILLE 1	54844	CT_e 1	33
VA	GORDONSVILLE 2	54844	CA_Xe 2	17
VA	GORDONSVILLE 2	54844	CT_e 2	34
VA	GRAVEL NECK	7032	—3	21
VA	GRAVEL NECK	7032	—X4	24
VA	GRAVEL NECK	7032	—5	14
VA	GRAVEL NECK	7032	—6	18
VA	HOPEWELL COGEN, INC.	10633	CT_nc.	102
VA	HOPEWELL COGEN, INC.	10633	CW_nc.	53
VA	LG&E-WESTMORELAND ALTAVISTA	10773	1	18
VA	LG&E-WESTMORELAND ALTAVISTA	10773	2	18
VA	LG&E-WESTMORELAND HOPEWELL	10771	1	17
VA	LG&E-WESTMORELAND HOPEWELL	10771	2	16
VA	LG&E-WESTMORELAND SOUTHAMPTON	10774	1	23
VA	LG&E-WESTMORELAND SOUTHAMPTON	10774	2	29
VA	MECKLENBURG	52007	ST_urg	234
VA	POSSUM POINT	3804	3	221
VA	POSSUM POINT	3804	4	528
VA	POSSUM POINT	3804	5	322
VA	POTOMAC RIVER	3788	1	203
VA	POTOMAC RIVER	3788	2	139
VA	POTOMAC RIVER	3788	3	232
VA	POTOMAC RIVER	3788	4	223
VA	POTOMAC RIVER	3788	5	222
VA	SEI BIRCHWOOD	12	1	305
VA	TASLEY	3785	10	6
VA	YORKTOWN	3809	1	386
VA	YORKTOWN	3809	2	419

ST	Plant	Plant_id	Point_id	NO_X allocation for EGUs
VA	YORKTOWN	3809	3	764
WV	ALBRIGHT	3942	1	76
WV	ALBRIGHT	3942	2	71
WV	ALBRIGHT	3942	3	241
WV	FORT MARTIN	3943	1	887
WV	FORT MARTIN	3943	2	868
WV	GRANT TOWN	10151	ST_own	156
WV	HARRISON	3944	1	1,385
WV	HARRISON	3944	2	1,444
WV	HARRISON	3944	3	1,505
WV	JOHN E AMOS	3935	1	1,254
WV	JOHN E AMOS	3935	2	1,198
WV	JOHN E AMOS	3935	3	1,859
WV	KAMMER	3947	1	399
WV	KAMMER	3947	2	418
WV	KAMMER	3947	3	447
WV	KANAWHA RIVER	3936	1	336
WV	KANAWHA RIVER	3936	2	323
WV	MITCHELL	3948	1	1,288
WV	MITCHELL	3948	2	1,191
WV	MORGANTOWN ENERGY ASSOCIATES	27	1	80
WV	MORGANTOWN ENERGY ASSOCIATES	27	2	80
WV	MOUNTAINEER (1301)	6264	1	1,952
WV	MT STORM	3954	1	1,048
WV	MT STORM	3954	2	1,127
WV	MT STORM	3954	3	1,236
WV	NORTH BRANCH	7537	1A	51
WV	NORTH BRANCH	7537	1B	53
WV	PHIL SPORN	3938	11	239
WV	PHIL SPORN	3938	21	215
WV	PHIL SPORN	3938	31	239
WV	PHIL SPORN	3938	41	230
WV	PHIL SPORN	3938	51	708
WV	PLEASANTS	6004	1	1,296
WV	PLEASANTS	6004	2	1,165
WV	RIVESVILLE	3945	7	38
WV	RIVESVILLE	3945	8	88
WV	WILLOW ISLAND	3946	1	79
WV	WILLOW ISLAND	3946	2	246

[6 FR 2727, Jan. 18, 2000, as amended at 66 FR 48575, Sept. 21, 2001]

APPENDIX B TO PART 97—FINAL SECTION 126 RULE: NON-EGU ALLOCATIONS, 2004–2007

State	County	Plant	Plant ID	Point ID	NO_X allocation for non-EGUs
DC	Washington	GSA CENTRAL HEATING PLANT	0025	003	0
DC	Washington	GSA CENTRAL HEATING PLANT	0025	004	0
DC	Washington	GSA CENTRAL HEATING PLANT	0025	005	0
DC	Washington	GSA CENTRAL HEATING PLANT	0025	006	0
DC	Washington	GSA WEST HEATING PLANT	0024	003	13
DC	Washington	GSA WEST HEATING PLANT	0024	005	12
DE	Kent	KRAFT FOODS INC	0007	001	0
DE	New Castle	MOTIVA ENTERPRISES (FORMERLY STAR ENTERPRISE, DELAWARE CITY PLANT).	0016	002	102
DE	New Castle	MOTIVA ENTERPRISES (FORMERLY STAR ENTERPRISE, DELAWARE CITY PLANT).	0016	012	118
KY	Boyd	ASHLAND OIL INC	0004	061	23
KY	Lawrence	KENTUCKY POWER CO	0003	004	0
MD	Baltimore	BETHLEHEM STEEL	0147	016	75
MD	Baltimore	BETHLEHEM STEEL	0147	017	75
MD	Baltimore	BETHLEHEM STEEL	0147	018	75
MD	Baltimore	BETHLEHEM STEEL	0147	019	75
MD	Allegany	WESTVACO	0011	001	289
MD	Allegany	WESTVACO	0011	002	373
MI	Wayne	DETROIT EDISON CO	B2810	0003	31
MI	Midland	DOW CHEMICAL USA	A4033	0401	6
MI	Midland	DOW CHEMICAL USA	A4033	0402	0
MI	Wayne	DSC LTD	B3680	0006	30

State	County	Plant	Plant ID	Point ID	NO_X allocation for non-EGUs
MI	Genesee	GENERAL MOTORS CORP	A1178	0501	63
MI	Genesee	GENERAL MOTORS CORP	A1178	0502	47
MI	Oakland	GENERAL MOTORS CORP	B4031	0506	22
MI	Genesee	GENERAL MOTORS CORP	A1178	0507	20
MI	Oakland	GENERAL MOTORS CORP	B4032	0510	4
MI	Kalamazoo	GEORGIA PACIFIC CORP	B4209	0005	6
MI	Kalamazoo	JAMES RIVER PAPER CO INC	B1678	0003	90
MI	Wayne	MARATHON OIL COMPANY	A9831	0001	109
MI	Allegan	MENASHA CORP	A0023	0024	71
MI	Allegan	MENASHA CORP	A0023	0025	69
MI	Ingham	MICHIGAN STATE UNIVERSITY	K3249	0053	110
MI	Ingham	MICHIGAN STATE UNIVERSITY	K3249	0054	118
MI	Ingham	MICHIGAN STATE UNIVERSITY	K3249	0055	77
MI	Ingham	MICHIGAN STATE UNIVERSITY	K3249	0056	73
MI	Washtenaw	THE REGENTS OF THE UNIVERSITY OF MICHIGAN.	M0675	0001	40
MI	Washtenaw	THE REGENTS OF THE UNIVERSITY OF MICHIGAN.	M0675	0002	37
MI	Oakland	WILLIAM BEAUMONT HOSPITAL	G5067	0010	0
MI	Oakland	WILLIAM BEAUMONT HOSPITAL	G5067	0011	0
NC	Haywood	BLUE RIDGE PAPER PRODUCTS INC	0159	005	129
NC	Haywood	CHAMPION INT CORP	0159	001	98
NC	Haywood	CHAMPION INT CORP	0159	002	88
NC	Haywood	CHAMPION INT CORP	0159	003	200
NC	Haywood	CHAMPION INT CORP	0159	004	176
NC	Halifax	CHAMPION INTERNATIONAL CORP. ROANOKE RAP.	0007	001	340
NC	Guilford	CONE MILLS CORP—WHITE OAK PLANT	0863	004	50
NC	Cabarrus	FIELDCREST—CANNON PLT 1 KANNAPOLIS	0006	001	77
NC	Columbus	INTERNATIONAL PAPER: RIEGELWOOD	0036	003	90
NC	Columbus	INTERNATIONAL PAPER: RIEGELWOOD	0036	004	228
NC	Martin	WEYERHAEUSER PAPER CO. PLYMOUTH	0069	001	265
NC	Craven	WEYERHAUSER COMPANY NEW BERN MILL	0104	005	205
NC	Craven	WEYERHAEUSER COMPANY NEW BERN MILL	0104	006	72
NC	Martin	WEYERHAEUSER COMPANY PLYMOUTH	0069	009	25
NJ	Middlesex	BALL—INCON GLASS PACKAGING	15035	001	46
NJ	Hudson	BEST FOODS CPC INTERNATIONAL I	10003	003	27
NJ	Middlesex	CHEVRON U.S.A., INC	15023	001	17
NJ	Middlesex	CHEVRON U.S.A., INC	15023	043	55
NJ	Gloucester	COASTAL EAGLE POINT OIL COMPAN	55004	001	3
NJ	Gloucester	COASTAL EAGLE POINT OIL COMPAN	55004	038	11
NJ	Gloucester	COASTAL EAGLE POINT OIL COMPAN	55004	039	11
NJ	Gloucester	COASTAL EAGLE POINT OIL COMPAN	55004	040	11
NJ	Gloucester	COASTAL EAGLE POINT OIL COMPAN	55004	064	38
NJ	Gloucester	COASTAL EAGLE POINT OIL COMPAN	55004	123	37
NJ	Middlesex	DEGUSSA CORPORATION-METZ DIVIS	15305	009	15
NJ	Union	EXXON CORPORATION	40003	001	57
NJ	Union	EXXON CORPORATION	40003	007	22
NJ	Union	EXXON CORPORATION	40003	014	98
NJ	Union	EXXON CORPORATION	40003	015	14
NJ	Middlesex	HERCULES INCORPORATED	15017	001	38
NJ	Middlesex	HERCULES INCORPORATED	15017	002	37
NJ	Warren	HOFFMAN LAROCHE INC	85010	034	45
NJ	Mercer	HOMASCTE COMPANY	60018	001	290
NJ	Mercer	HOMASCTE COMPANY	60018	002	312
NJ	Passaic	INTERNATIONAL VEILING CORPORAT	30098	001	22
NJ	Bergen	MALT PRODUCTS CORPORATION	00322	001	27
NJ	Atlantic	MARINA ASSOCIATES	70009	001	330
NJ	Atlantic	MARINA ASSOCIATES	70009	002	329
NJ	Atlantic	MARINA ASSOCIATES	70009	003	990
NJ	Union	MERCK & CO., INC	40009	001	66
NJ	Union	MERCK & CO., INC	40009	002	61
NJ	Union	MERCK & CO., INC	40009	003	56
NJ	Union	MERCK & CO., INC	40009	004	75
NJ	Union	MERCK & CO., INC	40009	005	89
NJ	Union	MERCK & CO., INC	40009	006	103
NJ	Gloucester	MOBIL OIL CORPORATION	55006	001	54
NJ	Gloucester	MOBIL OIL CORPORATION	55006	002	54
NJ	Gloucester	MOBIL OIL CORPORATION	55006	003	54
NJ	Gloucester	MOBIL OIL CORPORATION	55006	004	49
NJ	Gloucester	MOBIL OIL CORPORATION	55006	005	16
NJ	Gloucester	MOBIL OIL CORPORATION	55006	006	105

State	County	Plant	Plant ID	Point ID	NO_X allocation for non-EGUs
NJ	Gloucester	MOBIL OIL CORPORATION	55006	027	0
NJ	Gloucester	MOBIL OIL CORPORATION	55006	270	14
NJ	Monmouth	NESTLE CO., INC., THE	20004	006	13
NJ	Monmouth	NESTLE CO., INC., THE	20004	007	13
NJ	Middlesex	NEW JERSEY STEEL CORPORATION	15076	001	18
NJ	Gloucester	PETROLEUM RECYCLING, INC	55180	020	169
NJ	Atlantic	SCOTT PAPER COMPANY	70011	002	89
NJ	Atlantic	SCOTT PAPER COMPANY	70011	003	75
NJ	Atlantic	SCOTT PAPER COMPANY	70011	004	99
NJ	Mercer	STONY BROOK REGIONAL SEWERAGE	60248	001	55
NJ	Mercer	STONY BROOK REGIONAL SEWERAGE	60248	002	55
NY	Kings	HUDSON AVENUE	2496	B71	19
NY	Kings	HUDSON AVENUE	2496	B72	19
NY	Kings	HUDSON AVENUE	2496	B81	19
NY	Kings	HUDSON AVENUE	2496	B82	19
NY	Queens	RAVENSWOOD-A-HOUSE	CE03	B01	15
NY	Queens	RAVENSWOOD-A-HOUSE	CE03	B02	15
NY	Queens	RAVENSWOOD-A-HOUSE	CE03	B03	21
NY	Queens	RAVENSWOOD-A-HOUSE	CE03	B04	21
OH	Butler	AK STEEL (FORMERLY ARMCO STEEL CO.)	1409010006	P009	66
OH	Butler	AK STEEL (FORMERLY ARMCO STEEL CO.)	1409010006	P010	66
OH	Butler	AK STEEL (FORMERLY ARMCO STEEL CO.)	1409010006	P011	66
OH	Butler	AK STEEL (FORMERLY ARMCO STEEL CO.)	1409010006	P012	66
OH	Stark	ASHLAND PETROLEUM COMPANY	1576000301	B015	18
OH	Lucas	BP OIL COMPANY, TOLEDO REFINERY	0448020007	B004	39
OH	Lucas	BP OIL COMPANY, TOLEDO REFINERY	0448020007	B020	102
OH	Montgomery	CARGILL INCORPORATED	0857041124	B004	133
OH	Montgomery	CARGILL INCORPORATED	0857041124	B006	1
OH	Butler	CHAMPION INTERNATIONAL CORP	1409040212	B010	267
OH	Summit	GOODYEAR TIRE & RUBBER COMPANY	1677010193	B001	101
OH	Summit	GOODYEAR TIRE & RUBBER COMPANY	1677010193	B002	108
OH	Hamilton	HENKEL CORP.—EMERY GROUP	1431070035	B027	209
OH	Cuyahoga	LTV STEEL COMPANY, INC	1318001613	B001	139
OH	Cuyahoga	LTV STEEL COMPANY, INC	1318001613	B002	150
OH	Cuyahoga	LTV STEEL COMPANY, INC	1318001613	B003	159
OH	Cuyahoga	LTV STEEL COMPANY, INC	1318001613	B004	158
OH	Cuyahoga	LTV STEEL COMPANY, INC	1318001613	B007	155
OH	Cuyahoga	LTV STEEL COMPANY, INC	1318001613	B905	14
OH	Ross	MEAD CORPORATION	0671010028	B001	185
OH	Ross	MEAD CORPORATION	0671010028	B002	208
OH	Ross	MEAD CORPORATION	0671010028	B003	251
OH	Scioto	NEW BOSTON COKE CORP	0773010004	B008	20
OH	Scioto	NEW BOSTON COKE CORP	0773010004	B009	15
OH	Hamilton	PROCTER & GAMBLE CO	1431390903	B021	72
OH	Hamilton	PROCTER & GAMBLE CO	1431390903	B022	296
OH	Lorain	REPUBLIC ENGINEERED STEELS, INC. (FORMERLY USS/KOBE STEEL—LORAIN WORKS).	0247080229	B013	159
OH	Lawrence	SOUTH POINT ETHANOL	0744000009	B003	107
OH	Lawrence	SOUTH POINT ETHANOL	0744000009	B004	107
OH	Lawrence	SOUTH POINT ETHANOL	0744000009	B007	107
OH	Lucas	SUN REFINING & MARKETING CO, TOLEDO REF	0448010246	B044	47
OH	Lucas	SUN REFINING & MARKETING CO, TOLEDO REF	0448010246	B046	34
OH	Lucas	SUN REFINING & MARKETING CO, TOLEDO REF	0448010246	B047	18
OH	Trumbull	W C I STEEL, INC	0278000463	B001	113
OH	Trumbull	W C I STEEL, INC	0278000463	B004	142
PA	Northampton	BETHLEHEM STEEL CORP	0048	041	100
PA	Northampton	BETHLEHEM STEEL CORP	0048	042	66
PA	Northampton	BETHLEHEM STEEL CORP	0048	067	165
PA	Armstrong	BMG ASPHALT CO	0004	101	0
PA	Erie	GENERAL ELECTRIC	0009	032	16
PA	York	GLATFELTER, P. H. CO	0016	031	0
PA	York	GLATFELTER, P. H. CO	0016	034	137
PA	York	GLATFELTER, P. H. CO	0016	035	112
PA	York	GLATFELTER, P. H. CO	0016	036	211
PA	Clinton	INTERNATIONAL PAPER: LOCKHAVEN	0008	033	101
PA	Clinton	INTERNATIONAL PAPER: LOCKHAVEN	0008	034	90
PA	Delaware	KIMBERLY CLARK (FORMERLY SCOTT PAPER CO.).	0016	034	1
PA	Delaware	KIMBERLY CLARK (FORMERLY SCOTT PAPER CO.).	0016	035	345
PA	Allegheny	LTV STEEL COMPANY—PITTSBURGH WORKS	0022	015	25
PA	Allegheny	LTV STEEL COMPANY—PITTSBURGH WORKS	0022	017	15

State	County	Plant	Plant ID	Point ID	NO_X allocation for non-EGUs
PA	Allegheny	LTV STEEL COMPANY—PITTSBURGH WORKS	0022	019	29
PA	Allegheny	LTV STEEL COMPANY—PITTSBURGH WORKS	0022	021	55
PA	Montgomery	MERCK SHARP & DOHME	0028	039	126
PA	Westmoreland	MONESSEN INC	0007	031	0
PA	Bucks	PECO	0055	043	15
PA	Bucks	PECO	0055	045	32
PA	Bucks	PECO	0055	044	77
PA	Wyoming	PROCTER & GAMBLE CO	0009	035	187
PA	Allegheny	SHENANGO IRON & COKE WORKS	0050	006	18
PA	Allegheny	SHENANGO IRON & COKE WORKS	0050	009	15
PA	Delaware	SUN REFINING & MARKETING CO	0025	089	102
PA	Delaware	SUN REFINING & MARKETING CO	0025	090	163
PA	Philadelphia	SUN REFINING AND MARKETING 1 O	1501	020	49
PA	Philadelphia	SUN REFINING AND MARKETING 1 O	1501	021	83
PA	Philadelphia	SUN REFINING AND MARKETING 1 O	1501	022	105
PA	Philadelphia	SUN REFINING AND MARKETING 1 O	1501	023	127
PA	Philadelphia	SUNOCO (FORMERLY ALLIED CHEMICAL CORP)	1551	052	86
PA	Perry	TEXAS EASTERN GAS PIPELINE COMPANY	0001	031	0
PA	Berks	TEXAS EASTERN GAS PIPELINE COMPANY	0087	031	98
PA	Delaware	TOSCO REFINING (FORMERLY BP OIL, INC.)	0030	032	71
PA	Delaware	TOSCO REFINING (FORMERLY BP OIL, INC.)	0030	033	80
PA	Philadelphia	U.S. NAVAL BASE	9702	016	0
PA	Philadelphia	U.S. NAVAL BASE	9702	017	1
PA	Philadelphia	U.S. NAVAL BASE	9702	098	0
PA	Philadelphia	U.S. NAVAL BASE	9702	099	0
PA	Elk	WILLAMETTE INDUSTRIES (FORMERLY PENNTECH PAPERS, INC.	0005	040	90
PA	Elk	WILLAMETTE INDUSTRIES (FORMERLY PENNTECH PAPERS, INC.	0005	041	89
PA	Beaver	ZINC CORPORATION OF AMERICA	0032	034	176
PA	Beaver	ZINC CORPORATION OF AMERICA	0032	035	180
VA	Hopewell	ALLIED-SIGNAL INC	0026	002	499
VA	York	AMOCO OIL CO	0004	001	25
VA	Giles	CELANESE ACETATE LLC (FORMERLY HOECHST CELANESE CORP).	0004	007	148
VA	Giles	CELANESE ACETATE LLC (FORMERLY HOECHST CELANESE CORP).	0004	014	56
VA	Pittsylvania	DAN RIVER INC. (SCHOOLFIELD DIV)	0002	003	49
VA	Bedford	GEORGIA-PACIFIC—BIG ISLAND MILL	0003	002	86
VA	Isle Of Wight	INTERNATIONAL PAPER—FRANKLIN (FORMERLY UNION CAMP CORP/FINE PAPER DIV).	0006	003	272
VA	Hopewell	JAMES RIVER COGENERATION (COGE	0055	001	511
VA	Hopewell	JAMES RIVER COGENERATION (COGE	0055	002	512
VA	King William	ST. LAURENT PAPER PRODUCTS CORP.	0001	003	253
VA	Alleghany	WESTVACO CORP	0003	001	253
VA	Alleghany	WESTVACO CORP	0003	002	130
VA	Alleghany	WESTVACO CORP	0003	003	195
VA	Alleghany	WESTVACO CORP	0003	004	373
VA	Alleghany	WESTVACO CORP	0003	005	170
VA	Alleghany	WESTVACO CORP	0003	011	105
WV	Kanawha	AVENTIS CROPSCIENCE	00007	010	113
WV	Kanawha	AVENTIS CROPSCIENCE	00007	011	102
WV	Kanawha	AVENTIS CROPSCIENCE	00007	012	105
WV	Kanawha	DUPONT—BELLE	00001	612	54
WV	Fayette	ELKEM METALS COMPANY L.P.—ALLOY P PLANT.	00001	006	116
WV	Marshall	PPG INDUSTRIES, INC	00002	001	195
WV	Marshall	PPG INDUSTRIES, INC	00002	003	419
WV	Kanawha	RHONE-POLUENC	00007	070	8
WV	Kanawha	RHONE-POLUENC	00007	071	73
WV	Kanawha	RHONE-POLUENC	00007	080	7
WV	Kanawha	RHONE-POLUENC	00007	081	66
WV	Kanawha	RHONE-POLUENC	00007	090	8
WV	Kanawha	RHONE-POLUENC	00007	091	68
WV	Kanawha	UNION CARBIDE—SOUTH CHARLESTON PLANT	00003	0B6	66
WV	Kanawha	UNION CARBIDE—SOUTH CHARLESTON PLANT	0003	0B6	92
WV	Kanawha	UNION CARBIDE—SOUTH CHARLESTON PLANT	0003	0B7	45
WV	Hancock	WEIRTON STEEL CORPORATION	00001	030	31
WV	Hancock	WEIRTON STEEL CORPORATION	00001	088	30
WV	Hancock	WEIRTON STEEL CORPORATION	00001	089	2
WV	Hancock	WEIRTON STEEL CORPORATION	00001	090	110
WV	Hancock	WEIRTON STEEL CORPORATION	00001	091	253

State	County	Plant	Plant ID	Point ID	NO_X allocation for non-EGUs
WV	Hancock	WEIRTON STEEL CORPORATION	00001	092	208
WV	Hancock	WEIRTON STEEL CORPORATION	00001	093	200

[65 FR 2727, Jan. 18, 2000, as amended at 66 FR 48576, Sept. 21, 2001]

APPENDIX C TO PART 97—FINAL SECTION 126 RULE: TRADING BUDGET

ST	F126–EGU	F126–NEGU	Total
DC	207	26	233
DE	4,306	232	4,538
IN	7,088	82	7,170
KY	19,654	53	19,707
MD	14,519	1,013	15,532
MI	25,689	2,166	27,855
NC	31,212	2,329	33,541
NJ	9,716	4,838	14,554
NY	16,081	156	16,237
OH	45,432	4,103	49,535
PA	47,224	3,619	50,843
VA	17,091	4,104	21,195
WV	26,859	2,184	29,043
Total	265,078	24,905	289,983

APPENDIX D TO PART 97—FINAL SECTION 126 RULE: STATE COMPLIANCE SUPPLEMENT POOLS FOR THE SECTION 126 FINAL RULE (TONS)

State	Compliance supplement pool
Delaware	168
District of Columbia	0
Indiana	2,454
Kentucky	7,314
Maryland	3,882
Michigan	9,398
New Jersey	1,550
New York	1,379
North Carolina	10,737
Ohio	22,301
Pennsylvania	15,763
Virginia	5,504
West Virginia	16,709
Total	97,159

PART 98—MANDATORY GREENHOUSE GAS REPORTING

Subpart A—General Provisions

Sec.
98.1 Purpose and scope.
98.2 Who must report?
98.3 What are the general monitoring, reporting, recordkeeping and verification requirements of this part?
98.4 Authorization and responsibilities of the designated representative.
98.5 How is the report submitted?
98.6 Definitions.
98.7 What standardized methods are incorporated by reference into this part?
98.8 What are the compliance and enforcement provisions of this part?
98.9 Addresses.
TABLE A–1 TO SUBPART A OF PART 98—GLOBAL WARMING POTENTIALS
TABLE A–2 TO SUBPART A OF PART 98—UNITS OF MEASURE CONVERSIONS
TABLE A–3 TO SUBPART A OF PART 98—SOURCE CATEGORY LIST FOR §98.2(a)(1)
TABLE A–4 TO SUBPART A OF PART 98—SOURCE CATEGORY LIST FOR §98.2(a)(2)
TABLE A–5 TO SUBPART A OF PART 98—SUPPLIER CATEGORY LIST FOR §98.2(a)(4)
TABLE A–6 TO SUBPART A OF PART 98—DATA ELEMENTS THAT ARE INPUTS TO EMISSION EQUATIONS AND FOR WHICH THE REPORTING DEADLINE IS CHANGED TO SEPTEMBER 30, 2011
TABLE A–7 TO SUBPART A OF PART 98—DATA ELEMENTS THAT ARE INPUTS TO EMISSION EQUATIONS AND FOR WHICH THE REPORTING DEADLINE IS MARCH 31, 2015

Subpart B [Reserved]

Subpart C—General Stationary Fuel Combustion Sources

98.30 Definition of the source category.
98.31 Reporting threshold.
98.32 GHGs to report.
98.33 Calculating GHG emissions.
98.34 Monitoring and QA/QC requirements.
98.35 Procedures for estimating missing data.
98.36 Data reporting requirements.
98.37 Records that must be retained.
98.38 Definitions.

TABLE C–1 TO SUBPART C OF PART 98—DEFAULT CO_2 EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL

TABLE C–2 TO SUBPART C OF PART 98—DEFAULT CH_4 AND N_2O EMISSION FACTORS FOR VARIOUS TYPES OF FUEL

Subpart D—Electricity Generation

98.40 Definition of the source category.
98.41 Reporting threshold.
98.42 GHGs to report.
98.43 Calculating GHG emissions.
98.44 Monitoring and QA/QC requirements
98.45 Procedures for estimating missing data.
98.46 Data reporting requirements.
98.47 Records that must be retained.
98.48 Definitions.

Subpart E—Adipic Acid Production

98.50 Definition of source category.
98.51 Reporting threshold.
98.52 GHGs to report.
98.53 Calculating GHG emissions.
98.54 Monitoring and QA/QC requirements
98.55 Procedures for estimating missing data.
98.56 Data reporting requirements.
98.57 Records that must be retained.
98.58 Definitions.

Subpart F—Aluminum Production

98.60 Definition of the source category.
98.61 Reporting threshold.
98.62 GHGs to report.
98.63 Calculating GHG emissions.
98.64 Monitoring and QA/QC requirements.
98.65 Procedures for estimating missing data.
98.66 Data reporting requirements.
98.67 Records that must be retained.
98.68 Definitions.

TABLE F–1 TO SUBPART F OF PART 98—SLOPE AND OVERVOLTAGE COEFFICIENTS FOR THE CALCULATION OF PFC EMISSIONS FROM ALUMINUM PRODUCTION

TABLE F–2 TO SUBPART F OF PART 98—DEFAULT DATA SOURCES FOR PARAMETERS USED FOR CO_2 EMISSIONS

Subpart G—Ammonia Manufacturing

98.70 Definition of source category.
98.71 Reporting threshold.
98.72 GHGs to report.
98.73 Calculating GHG emissions.
98.74 Monitoring and QA/QC requirements.
98.75 Procedures for estimating missing data.
98.76 Data reporting requirements.
98.77 Records that must be retained.
98.78 Definitions.

Subpart H—Cement Production

98.80 Definition of the source category.
98.81 Reporting threshold.
98.82 GHGs to report.
98.83 Calculating GHG emissions.
98.84 Monitoring and QA/QC requirements.
98.85 Procedures for estimating missing data.
98.86 Data reporting requirements.
98.87 Records that must be retained.
98.88 Definitions.

Subpart I—Electronics Manufacturing

98.90 Definition of the source category.
98.91 Reporting threshold.
98.92 GHGs to report.
98.93 Calculating GHG emissions.
98.94 Monitoring and QA/QC requirements.
98.95 Procedures for estimating missing data.
98.96 Data reporting requirements.
98.97 Records that must be retained.
98.98 Definitions.

TABLE I–1 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS FOR THRESHOLD APPLICABILITY DETERMINATION

TABLE I–2 TO SUBPART I OF PART 98—EXAMPLES OF FLUORINATED GHGS USED BY THE ELECTRONICS INDUSTRY

TABLE I–3 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR SEMICONDUCTOR MANUFACTURING FOR 150 MM AND 200 MM WAFER SIZES

TABLE I–4 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR SEMICONDUCTOR MANUFACTURING FOR 300 MM AND 450 MM WAFER SIZE

TABLE I–5 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR MEMS MANUFACTURING

TABLE I–6 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR LCD MANUFACTURING

TABLE I–7 TO SUBPART I OF PART 98— DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR PV MANUFACTURING
TABLE I–8 TO SUBPART I OF PART 98— DEFAULT EMISSION FACTORS ($1–U_{N2O,j}$) FOR N_2O UTILIZATION ($U_{N2O,j}$)
TABLE I–9 TO SUBPART I OF PART 98—METHODS AND PROCEDURES FOR CONDUCTING EMISSIONS TEST FOR STACK SYSTEMS
TABLE I–10 TO SUBPART I OF PART 98—MAXIMUM FIELD DETECTION LIMITS APPLICABLE TO FLUORINATED GHG CONCENTRATION MEASUREMENTS FOR STACK SYSTEMS
TABLE I–11 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR SEMICONDUCTOR MANUFACTURING FOR USE WITH THE STACK TEST METHOD (150 MM AND 200 MM WAFERS)
TABLE I–12 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR SEMICONDUCTOR MANUFACTURING FOR USE WITH THE STACK TEST METHOD (300 MM AND 450 MM WAFERS)
TABLE I–13 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR LCD MANUFACTURING FOR USE WITH THE STACK TEST METHOD
TABLE I–14 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR PV MANUFACTURING FOR USE WITH THE STACK TEST METHOD
TABLE I–15 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR MEMS MANUFACTURING FOR USE WITH THE STACK TEST METHOD
TABLE I–16 TO SUBPART I OF PART 98—DEFAULT EMISSION DESTRUCTION OR REMOVAL EFFICIENCY (DRE) FACTORS FOR ELECTRONICS MANUFACTURING
TABLE I–17 TO SUBPART I OF PART 98—EXPECTED AND POSSIBLE BY-PRODUCTS FOR ELECTRONICS MANUFACTURING
APPENDIX A TO SUBPART I OF PART 98—ALTERNATIVE PROCEDURES FOR MEASURING POINT-OF-USE ABATEMENT DEVICE DESTRUCTION OR REMOVAL EFFICIENCY

Subpart J [Reserved]

Subpart K—Ferroalloy Production

98.110 Definition of the source category.
98.111 Reporting threshold.
98.112 GHGs to report.
98.113 Calculating GHG emissions.
98.114 Monitoring and QA/QC requirements.
98.115 Procedures for estimating missing data.
98.116 Data reporting requirements.
98.117 Records that must be retained.
98.118 Definitions.
TABLE K–1 TO SUBPART K OF PART 98—ELECTRIC ARC FURNACE (EAF) CH4 EMISSION FACTORS

Subpart L—Fluorinated Gas Production

98.120 Definition of the source category.
98.121 Reporting threshold.
98.122 GHGs to report.
98.123 Calculating GHG emissions.
98.124 Monitoring and QA/QC requirements.
98.125 Procedures for estimating missing data.
98.126 Data reporting requirements.
98.127 Records that must be retained.
98.128 Definitions.
TABLE L–1 TO SUBPART L OF PART 98—RANGES OF EFFECTIVE DESTRUCTION EFFICIENCY
APPENDIX A TO SUBPART L OF PART 98—MASS BALANCE METHOD FOR FLUORINATED GAS PRODUCTION

Subpart –M [Reserved]

Subpart N—Glass Production

98.140 Definition of the source category.
98.141 Reporting threshold.
98.142 GHGs to report.
98.143 Calculating GHG emissions.
98.144 Monitoring and QA/QC requirements.
98.145 Procedures for estimating missing data.
98.146 Data reporting requirements.
98.147 Records that must be retained.
98.148 Definitions.
TABLE N–1 TO SUBPART N OF PART 98—CO_2 EMISSION FACTORS FOR CARBONATE-BASED RAW MATERIALS

Subpart O—HCFC–22 Production and HFC–23 Destruction

98.150 Definition of the source category.
98.151 Reporting threshold.
98.152 GHGs to report.
98.153 Calculating GHG emissions.
98.154 Monitoring and QA/QC requirements.
98.155 Procedures for estimating missing data.
98.156 Data reporting requirements.
98.157 Records that must be retained.
98.158 Definitions.
TABLE O–1 TO SUBPART O OF PART 98—EMISSION FACTORS FOR EQUIPMENT LEAKS

Subpart P—Hydrogen Production

98.160 Definition of the source category.
98.161 Reporting threshold.

98.162 GHGs to report.
98.163 Calculating GHG emissions.
98.164 Monitoring and QA/QC requirements.
98.165 Procedures for estimating missing data.
98.166 Data reporting requirements.
98.167 Records that must be retained.
98.168 Definitions.

Subpart Q—Iron and Steel Production

98.170 Definition of the source category.
98.171 Reporting threshold.
98.172 GHGs to report.
98.173 Calculating GHG emissions.
98.174 Monitoring and QA/QC requirements.
98.175 Procedures for estimating missing data.
98.176 Data reporting requirements.
98.177 Records that must be retained.
98.178 Definitions.

Subpart R—Lead Production

98.180 Definition of the source category.
98.181 Reporting threshold.
98.182 GHGs to report.
98.183 Calculating GHG emissions.
98.184 Monitoring and QA/QC requirements.
98.185 Procedures for estimating missing data.
98.186 Data reporting procedures.
98.187 Records that must be retained.
98.188 Definitions.

Subpart S—Lime Manufacturing

98.190 Definition of the source category.
98.191 Reporting threshold.
98.192 GHGs to report.
98.193 Calculating GHG emissions.
98.194 Monitoring and QA/QC requirements.
98.195 Procedures for estimating missing data.
98.196 Data reporting requirements.
98.197 Records that must be retained.
98.198 Definitions.
TABLE S–1 TO SUBPART S OF PART 98—BASIC PARAMETERS FOR THE CALCULATION OF EMISSION FACTORS FOR LIME PRODUCTION

Subpart T—Magnesium Production

98.200 Definition of source category.
98.201 Reporting threshold.
98.202 GHGs to report.
98.203 Calculating GHG emissions.
98.204 Monitoring and QA/QC requirements.
98.205 Procedures for estimating missing data.
98.206 Data reporting requirements.
98.207 Records that must be retained.
98.208 Definitions.

Subpart U—Miscellaneous Uses of Carbonate

98.210 Definition of the source category.
98.211 Reporting threshold.
98.212 GHGs to report.
98.213 Calculating GHG emissions.
98.214 Monitoring and QA/QC requirements.
98.215 Procedures for estimating missing data.
98.216 Data reporting requirements.
98.217 Records that must be retained.
98.218 Definitions.
TABLE U–1 TO SUBPART U OF PART 98—CO_2 EMISSION FACTORS FOR COMMON CARBONATES

Subpart V—Nitric Acid Production

98.220 Definition of source category.
98.221 Reporting threshold.
98.222 GHGs to report.
98.223 Calculating GHG emissions.
98.224 Monitoring and QA/QC requirements.
98.225 Procedures for estimating missing data.
98.226 Data reporting requirements.
98.227 Records that must be retained.
98.228 Definitions.

Subpart W—Petroleum and Natural Gas Systems

98.230 Definition of the source category.
98.231 Reporting threshold.
98.232 GHGs to report.
98.233 Calculating GHG emissions.
98.234 Monitoring and QA/QC requirements.
98.235 Procedures for estimating missing data.
98.236 Data reporting requirements.
98.237 Records that must be retained.
98.238 Definitions.
TABLE W–1A TO SUBPART W OF PART 98—DEFAULT WHOLE GAS EMISSION FACTORS FOR ONSHORE PETROLEUM AND NATURAL GAS PRODUCTION
TABLE W–1B TO SUBPART W OF PART 98—DEFAULT AVERAGE COMPONENT COUNTS FOR MAJOR ONSHORE NATURAL GAS PRODUCTION EQUIPMENT
TABLE W–1C TO SUBPART W OF PART 98—DEFAULT AVERAGE COMPONENT COUNTS FOR MAJOR CRUDE OIL PRODUCTION EQUIPMENT
TABLE W–1D TO SUBPART W OF PART 98—DESIGNATION OF EASTERN AND WESTERN U.S.
TABLE W–2 TO SUBPART W OF PART 98—DEFAULT TOTAL HYDROCARBON EMISSION FACTORS FOR ONSHORE NATURAL GAS PROCESSING
TABLE W–3 TO SUBPART W OF PART 98—DEFAULT TOTAL HYDROCARBON EMISSION FACTORS FOR ONSHORE NATURAL GAS TRANSMISSION COMPRESSION
TABLE W–4 TO SUBPART W OF PART 98—DEFAULT TOTAL HYDROCARBON EMISSION FACTORS FOR UNDERGROUND NATURAL GAS STORAGE
TABLE W–5 TO SUBPART W OF PART 98—DEFAULT METHANE EMISSION FACTORS FOR LIQUEFIED NATURAL GAS (LNG) STORAGE

TABLE W–6 TO SUBPART W OF PART 98—DEFAULT METHANE EMISSION FACTORS FOR LNG IMPORT AND EXPORT EQUIPMENT
TABLE W–7 TO SUBPART W OF PART 98—DEFAULT METHANE EMISSION FACTORS FOR NATURAL GAS DISTRIBUTION

Subpart X—Petrochemical Production

98.240 Definition of the source category.
98.241 Reporting threshold.
98.242 GHGs to report.
98.243 Calculating GHG emissions.
98.244 Monitoring and QA/QC requirements.
98.245 Procedures for estimating missing data.
98.246 Data reporting requirements.
98.247 Records that must be retained.
98.248 Definitions.

Subpart Y—Petroleum Refineries

98.250 Definition of source category.
98.251 Reporting threshold.
98.252 GHGs to report.
98.253 Calculating GHG emissions.
98.254 Monitoring and QA/QC requirements.
98.255 Procedures for estimating missing data.
98.256 Data reporting requirements.
98.257 Records that must be retained.
98.258 Definitions.

Subpart Z—Phosphoric Acid Production

98.260 Definition of the source category.
98.261 Reporting threshold.
98.262 GHGs to report.
98.263 Calculating GHG emissions.
98.264 Monitoring and QA/QC requirements.
98.265 Procedures for estimating missing data.
98.266 Data reporting requirements.
98.267 Records that must be retained.
98.268 Definitions.
TABLE Z–1 TO SUBPART Z OF PART 98—DEFAULT CHEMICAL COMPOSITION OF PHOSPHATE ROCK BY ORIGIN

Subpart AA—Pulp and Paper Manufacturing

98.270 Definition of source category.
98.271 Reporting threshold.
98.272 GHGs to report.
98.273 Calculating GHG emissions.
98.274 Monitoring and QA/QC requirements.
98.275 Procedures for estimating missing data.
98.276 Data reporting requirements.
98.277 Records that must be retained.
98.278 Definitions.
TABLE AA–1 TO SUBPART AA OF PART 98—KRAFT PULPING LIQUOR EMISSIONS FACTORS FOR BIOMASS-BASED CO_2, CH_4, AND N_2O
TABLE AA–2 TO SUBPART AA OF PART 98—KRAFT LIME KILN AND CALCINER EMISSIONS FACTORS FOR CH_4 AND N_2O

Subpart BB—Silicon Carbide Production

98.280 Definition of the source category.
98.281 Reporting threshold.
98.282 GHGs to report.
98.283 Calculating GHG emissions.
98.284 Monitoring and QA/QC requirements.
98.285 Procedures for estimating missing data.
98.286 Data reporting requirements.
98.287 Records that must be retained.
98.288 Definitions.

Subpart CC—Soda Ash Manufacturing

98.290 Definition of the source category.
98.291 Reporting threshold.
98.292 GHGs to report.
98.293 Calculating GHG emissions.
98.294 Monitoring and QA/QC requirements.
98.295 Procedures for estimating missing data.
98.296 Data reporting requirements.
98.297 Records that must be retained.
98.298 Definitions.

Subpart DD—Electrical Transmission and Distribution Equipment Use

98.300 Definition of the source category.
98.301 Reporting threshold.
98.302 GHGs to report.
98.303 Calculating GHG emissions.
98.304 Monitoring and QA/QC requirements.
98.305 Procedures for estimating missing data.
98.306 Data reporting requirements.
98.307 Records that must be retained.
98.308 Definitions.

Subpart EE—Titanium Dioxide Production

98.310 Definition of the source category.
98.311 Reporting threshold.
98.312 GHGs to report.
98.313 Calculating GHG emissions.
98.314 Monitoring and QA/QC requirements.
98.315 Procedures for estimating missing data.
98.316 Data reporting requirements.
98.317 Records that must be retained.
98.318 Definitions.

Subpart FF—Underground Coal Mines

98.320 Definition of the source category.
98.321 Reporting threshold.
98.322 GHGs to report.
98.323 Calculating GHG emissions.
98.324 Monitoring and QA/QC requirements.
98.325 Procedures for estimating missing data.
98.326 Data reporting requirements.
98.327 Records that must be retained.

98.328 Definitions.

Subpart GG—Zinc Production

98.330 Definition of the source category.
98.331 Reporting threshold.
98.332 GHGs to report.
98.333 Calculating GHG emissions.
98.334 Monitoring and QA/QC requirements.
98.335 Procedures for estimating missing data.
98.336 Data reporting requirements.
98.337 Records that must be retained.
98.338 Definitions.

Subpart HH—Municipal Solid Waste Landfills

98.340 Definition of the source category.
98.341 Reporting threshold.
98.342 GHGs to report.
98.343 Calculating GHG emissions.
98.344 Monitoring and QA/QC requirements.
98.345 Procedures for estimating missing data.
98.346 Data reporting requirements.
98.347 Records that must be retained.
98.348 Definitions.
TABLE HH–1 TO SUBPART HH OF PART 98—EMISSIONS FACTORS, OXIDATION FACTORS AND METHODS
TABLE HH–2 TO SUBPART HH OF PART 98—U.S. PER CAPITA WASTE DISPOSAL RATES
TABLE HH–3 TO SUBPART HH OF PART 98—LANDFILL GAS COLLECTION EFFICIENCIES
TABLE HH–4 TO SUBPART HH OF PART 98—LANDFILL METHANE OXIDATION FRACTIONS

Subpart II—Industrial Wastewater Treatment

98.350 Definition of source category.
98.351 Reporting threshold.
98.352 GHGs to report.
98.353 Calculating GHG emissions.
98.354 Monitoring and QA/QC requirements.
98.355 Procedures for estimating missing data.
98.356 Data reporting requirements.
98.357 Records that must be retained.
98.358 Definitions.
TABLE II–1 TO SUBPART II OF PART 98—EMISSION FACTORS
TABLE II–2 TO SUBPART II OF PART 98—COLLECTION EFFICIENCIES OF ANAEROBIC PROCESSES

Subpart JJ—Manure Management

98.360 Definition of the source category.
98.361 Reporting threshold.
98.362 GHGs to report.
98.363 Calculating GHG emissions.
98.364 Monitoring and QA/QC requirements.
98.365 Procedures for estimating missing data.
98.366 Data reporting requirements.
98.367 Records that must be retained.
98.368 Definitions.
TABLE JJ–1 TO SUBPART JJ OF PART 98—ANIMAL POPULATION THRESHOLD LEVEL BELOW WHICH FACILITIES ARE NOT REQUIRED TO REPORT EMISSIONS UNDER SUBPART JJ
TABLE JJ–2 TO SUBPART JJ OF PART 98—WASTE CHARACTERISTICS DATA
TABLE JJ–3 TO SUBPART JJ OF PART 98—STATE-SPECIFIC VOLATILE SOLIDS (VS) AND NITROGEN (N) EXCRETION RATES FOR CATTLE
TABLE JJ–4 TO SUBPART JJ OF PART 98—VOLATILE SOLIDS AND NITROGEN REMOVAL THROUGH SOLIDS SEPARATION
TABLE JJ–5 TO SUBPART JJ OF PART 98—METHANE CONVERSION FACTORS
TABLE JJ–6 TO SUBPART JJ OF PART 98—COLLECTION EFFICIENCIES OF ANAEROBIC DIGESTERS
TABLE JJ–7 TO SUBPART JJ OF PART 98—NITROUS OXIDE EMISSION FACTORS (KG N_2O–N/KG KJDL N)

Subpart KK [Reserved]

Subpart LL—Suppliers of Coal-based Liquid Fuels

98.380 Definition of the source category.
98.381 Reporting threshold.
98.382 GHGs to report.
98.383 Calculating GHG emissions.
98.384 Monitoring and QA/QC requirements.
98.385 Procedures for estimating missing data.
98.386 Data reporting requirements.
98.387 Records that must be retained.
98.388 Definitions.

Subpart MM—Suppliers of Petroleum Products

98.390 Definition of the source category.
98.391 Reporting threshold.
98.392 GHGs to report.
98.393 Calculating GHG emissions.
98.394 Monitoring and QA/QC requirements.
98.395 Procedures for estimating missing data.
98.396 Data reporting requirements.
98.397 Records that must be retained.
98.398 Definitions.
TABLE MM–1 TO SUBPART MM OF PART 98—DEFAULT CO_2 FACTORS FOR PETROLEUM PRODUCTS
TABLE MM–2 TO SUBPART MM OF PART 98—DEFAULT FACTORS FOR BIOMASS-BASED FUELS AND BIOMASS

Subpart NN—Suppliers of Natural Gas and Natural Gas Liquids

98.400 Definition of the source category.
98.401 Reporting threshold.
98.402 GHGs to report.

98.403 Calculating GHG emissions.
98.404 Monitoring and QA/QC requirements.
98.405 Procedures for estimating missing data.
98.406 Data reporting requirements.
98.407 Records that must be retained.
98.408 Definitions.

TABLE NN–1 TO SUBPART NN OF PART 98—DEFAULT FACTORS FOR CALCULATION METHODOLOGY 1 OF THIS SUBPART

TABLE NN–2 TO SUBPART NN OF PART 98—LOOKUP DEFAULT VALUES FOR CALCULATION METHODOLOGY 2 OF THIS SUBPART

Subpart OO—Suppliers of Industrial Greenhouse Gases

98.410 Definition of the source category.
98.411 Reporting threshold.
98.412 GHGs to report.
98.413 Calculating GHG emissions.
98.414 Monitoring and QA/QC requirements.
98.415 Procedures for estimating missing data.
98.416 Data reporting requirements.
98.417 Records that must be retained.
98.418 Definitions.

Subpart PP—Suppliers of Carbon Dioxide

98.420 Definition of the source category.
98.421 Reporting threshold.
98.422 GHGs to report.
98.423 Calculating CO_2 supply.
98.424 Monitoring and QA/QC requirements.
98.425 Procedures for estimating missing data.
98.426 Data reporting requirements.
98.427 Records that must be retained.
98.428 Definitions.

Subpart QQ—Importers and Exporters of Fluorinated Greenhouse Gases Contained in Pre-Charged Equipment or Closed-Cell Foams

98.430 Definition of the source category.
98.431 Reporting threshold.
98.432 GHGs to report.
98.433 Calculating GHG emissions.
98.434 Monitoring and QA/QC requirements.
98.435 Procedures for estimating missing data.
98.436 Data reporting requirements.
98.437 Records that must be retained.
98.438 Definitions.

Subpart RR—Geologic Sequestration of Carbon Dioxide

98.440 Definition of the source category.
98.441 Reporting threshold.
98.442 GHGs to report.
98.443 Calculating CO_2 geologic sequestration.
98.444 Monitoring and QA/QC requirements.
98.445 Procedures for estimating missing data.
98.446 Data reporting requirements.
98.447 Records that must be retained.
98.448 Geologic sequestration monitoring, reporting, and verification (MRV) plan.
98.449 Definitions.

Subpart SS—Electrical Equipment Manufacture or Refurbishment

98.450 Definition of the source category.
98.451 Reporting threshold.
98.452 GHGs to report.
98.453 Calculating GHG emissions.
98.454 Monitoring and QA/QC requirements.
98.455 Procedures for estimating missing data.
98.456 Data reporting requirements.
98.457 Records that must be retained.
98.458 Definitions.

Subpart TT—Industrial Waste Landfills

98.460 Definition of the source category.
98.461 Reporting threshold.
98.462 GHGs to report.
98.463 Calculating GHG emissions.
98.464 Monitoring and QA/QC requirements.
98.465 Procedures for estimating missing data.
98.466 Data reporting requirements.
98.467 Records that must be retained.
98.468 Definitions.

TABLE TT–1 TO SUBPART TT OF PART 98—DEFAULT DOC AND DECAY RATE VALUES FOR INDUSTRIAL WASTE LANDFILLS

Subpart UU—Injection of Carbon Dioxide

98.470 Definition of the source category.
98.471 Reporting threshold.
98.472 GHGs to report.
98.473 Calculating CO_2 received.
98.474 Monitoring and QA/QC requirements.
98.475 Procedures for estimating missing data.
98.476 Data reporting requirements.
98.477 Records that must be retained.
98.478 Definitions.

AUTHORITY: 42 U.S.C. 7401, *et seq.*

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Subpart A—General Provision

§ 98.1 Purpose and scope.

(a) This part establishes mandatory greenhouse gas (GHG) reporting requirements for owners and operators of certain facilities that directly emit GHG as well as for certain suppliers. For suppliers, the GHGs reported are the quantity that would be emitted

from combustion or use of the products supplied.

(b) Owners and operators of facilities and suppliers that are subject to this part must follow the requirements of this subpart and all applicable subparts of this part. If a conflict exists between a provision in subpart A and any other applicable subpart, the requirements of the applicable subpart shall take precedence.

(c) For facilities required to report under onshore petroleum and natural gas production under subpart W of this part, the terms *Owner* and *Operator* used in subpart A have the same definition as *Onshore petroleum and natural gas production owner or operator*, as defined in §98.238 of this part.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 39758, July 12, 2010; 76 FR 73898, Nov. 29, 2011; 76 FR 80573, Dec. 23, 2011]

§98.2 Who must report?

(a) The GHG reporting requirements and related monitoring, recordkeeping, and reporting requirements of this part apply to the owners and operators of any facility that is located in the United States or under or attached to the Outer Continental Shelf (as defined in 43 U.S.C. 1331) and that meets the requirements of either paragraph (a)(1), (a)(2), or (a)(3) of this section; and any supplier that meets the requirements of paragraph (a)(4) of this section:

(1) *A facility that contains any source category that is listed in Table A–3 of this subpart in any calendar year starting in 2010*. For these facilities, the annual GHG report must cover stationary fuel combustion sources (subpart C of this part), miscellaneous use of carbonates (subpart U of this part), and all applicable source categories listed in Table A–3 and Table A–4 of this subpart.

(2) *A facility that contains any source category that is listed in Table A–4 of this subpart and that emits 25,000 metric tons CO_2e or more per year in combined emissions from stationary fuel combustion units, miscellaneous uses of carbonate, and all applicable source categories that are listed in Table A–3 and Table A–4 of this subpart*. For these facilities, the annual GHG report must cover stationary fuel combustion sources (subpart C of this part), miscellaneous use of carbonates (subpart U of this part), and all applicable source categories listed in Table A–3 and Table A–4 of this subpart.

(3) *A facility that in any calendar year starting in 2010 meets all three of the conditions listed in this paragraph (a)(3)*. For these facilities, the annual GHG report must cover emissions from stationary fuel combustion sources only.

(i) The facility does not meet the requirements of either paragraph (a)(1) or (a)(2) of this section.

(ii) The aggregate maximum rated heat input capacity of the stationary fuel combustion units at the facility is 30 mmBtu/hr or greater.

(iii) The facility emits 25,000 metric tons CO_2e or more per year in combined emissions from all stationary fuel combustion sources.

(4) *A supplier that is listed in Table A–5 of this subpart*. For these suppliers, the annual GHG report must cover all applicable products for which calculation methodologies are provided in the subparts listed in Table A–5 of this subpart.

(5) Research and development activities are not considered to be part of any source category defined in this part.

(b) To calculate GHG emissions for comparison to the 25,000 metric ton CO_2e per year emission threshold in paragraph (a)(2) of this section, the owner or operator shall calculate annual CO_2e emissions, as described in paragraphs (b)(1) through (b)(4) of this section.

(1) Calculate the annual emissions of CO_2, CH_4, N_2O, and each fluorinated GHG in metric tons from all applicable source categories listed in paragraph (a)(2) of this section. The GHG emissions shall be calculated using the calculation methodologies specified in each applicable subpart and available company records.

(2) For each general stationary fuel combustion unit, calculate the annual CO_2 emissions in metric tons using any of the four calculation methodologies specified in §98.33(a). Calculate the annual CH_4 and N_2O emissions from the stationary fuel combustion sources in metric tons using the appropriate equation in §98.33(c). Exclude carbon dioxide emissions from the combustion

of biomass, but include emissions of CH_4 and N_2O from biomass combustion.

(3) For miscellaneous uses of carbonate, calculate the annual CO_2 emissions in metric tons using the procedures specified in subpart U of this part.

(4) Sum the emissions estimates from paragraphs (b)(1), (b)(2), and (b)(3) of this section for each GHG and calculate metric tons of CO_2e using Equation A–1 of this section.

$$CO_2e = \sum_{i=1}^{n} GHG_i \times GWP_i \qquad \text{(Eq. A-1)}$$

Where:

CO_2e = Carbon dioxide equivalent, metric tons/year.

GHG_i = Mass emissions of each greenhouse gas, metric tons/year.

GWP_i = Global warming potential for each greenhouse gas from Table A–1 of this subpart.

n = The number of greenhouse gases emitted.

(5) For purpose of determining if an emission threshold has been exceeded, include in the emissions calculation any CO_2 that is captured for transfer off site.

(c) To calculate GHG emissions for comparison to the 25,000 metric ton CO_2e/year emission threshold for stationary fuel combustion under paragraph (a)(3) of this section, calculate CO_2, CH_4, and N_2O emissions from each stationary fuel combustion unit by following the methods specified in paragraph (b)(2) of this section. Then, convert the emissions of each GHG to metric tons CO_2e per year using Equation A–1 of this section, and sum the emissions for all units at the facility.

(d) To calculate GHG quantities for comparison to the 25,000 metric ton CO_2 per year threshold for importers and exporters of coal-to-liquid products under paragraph (a)(4) of this section, calculate the mass in metric tons per year of CO_2 that would result from the complete combustion or oxidation of the quantity of coal-to-liquid products that are imported during the reporting year and, that are exported during the reporting year. Compare the imported quantities and the exported quantities separately to the 25,000 metric ton CO_2 per year threshold. Calculate the quantities using the methodology specified in subpart LL of this part.

(e) To calculate GHG quantities for comparison to the 25,000 metric ton CO_2e per year threshold for importers and exporters of petroleum products under paragraph (a)(4) of this section, calculate the mass in metric tons per year of CO_2 that would result from the complete combustion or oxidation of the combined volume of petroleum products and natural gas liquids that are imported during the reporting year and that are exported during the reporting year. Compare the imported quantities and the exported quantities separately to the 25,000 metric ton CO_2 per year threshold. Calculate the quantities using the methodology specified in subpart MM of this part.

(f) To calculate GHG quantities for comparison to the 25,000 metric ton CO_2e per year threshold under paragraph (a)(4) of this section for importers and exporters of industrial greenhouse gases and for importers and exporters of CO_2, the owner or operator shall calculate the mass in metric tons per year of CO_2e imports and exports as described in paragraphs (f)(1) through (f)(3) of this section. Compare the imported quantities and the exported quantities separately to the 25,000 metric ton CO_2 per year threshold.

(1) Calculate the mass in metric tons per year of CO_2, N_2O, and each fluorinated GHG that is imported and the mass in metric tons per year of CO_2, N_2O, and each fluorinated GHG that is exported during the year.

(2) Convert the mass of each imported and each GHG exported from paragraph (f)(1) of this section to metric tons of CO_2e using Equation A–1 of this section.

(3) Sum the total annual metric tons of CO_2e in paragraph (f)(2) of this section for all imported GHGs. Sum the total annual metric tons of CO_2e in paragraph (f)(2) of this section for all exported GHGs.

(g) If a capacity or generation reporting threshold in paragraph (a)(1) of this section applies, the owner or operator shall review the appropriate records and perform any necessary calculations to determine whether the threshold has been exceeded.

(h) An owner or operator of a facility or supplier that does not meet the applicability requirements of paragraph (a) of this section is not subject to this rule. Such owner or operator would become subject to the rule and reporting requirements, if a facility or supplier exceeds the applicability requirements of paragraph (a) of this section at a later time pursuant to §98.3(b)(3). Thus, the owner or operator should reevaluate the applicability to this part (including the revising of any relevant emissions calculations or other calculations) whenever there is any change that could cause a facility or supplier to meet the applicability requirements of paragraph (a) of this section. Such changes include but are not limited to process modifications, increases in operating hours, increases in production, changes in fuel or raw material use, addition of equipment, and facility expansion.

(i) Except as provided in this paragraph, once a facility or supplier is subject to the requirements of this part, the owner or operator must continue for each year thereafter to comply with all requirements of this part, including the requirement to submit annual GHG reports, even if the facility or supplier does not meet the applicability requirements in paragraph (a) of this section in a future year.

(1) If reported emissions are less than 25,000 metric tons CO_2e per year for five consecutive years, then the owner or operator may discontinue complying with this part provided that the owner or operator submits a notification to the Administrator that announces the cessation of reporting and explains the reasons for the reduction in emissions. The notification shall be submitted no later than March 31 of the year immediately following the fifth consecutive year of emissions less than 25,000 tons CO_2e per year. The owner or operator must maintain the corresponding records required under §98.3(g) for each of the five consecutive years and retain such records for three years following the year that reporting was discontinued. The owner or operator must resume reporting if annual emissions in any future calendar year increase to 25,000 metric tons CO_2e per year or more.

(2) If reported emissions are less than 15,000 metric tons CO_2e per year for three consecutive years, then the owner or operator may discontinue complying with this part provided that the owner or operator submits a notification to the Administrator that announces the cessation of reporting and explains the reasons for the reduction in emissions. The notification shall be submitted no later than March 31 of the year immediately following the third consecutive year of emissions less than 15,000 tons CO_2e per year. The owner or operator must maintain the corresponding records required under §98.3(g) for each of the three consecutive years and retain such records for three years following the year that reporting was discontinued. The owner or operator must resume reporting if annual emissions in any future calendar year increase to 25,000 metric tons CO_2e per year or more.

(3) If the operations of a facility or supplier are changed such that all applicable GHG-emitting processes and operations listed in paragraphs (a)(1) through (a)(4) of this section cease to operate, then the owner or operator is exempt from reporting in the years following the year in which cessation of such operations occurs, provided that the owner or operator submits a notification to the Administrator that announces the cessation of reporting and certifies to the closure of all GHG-emitting processes and operations no later than March 31 of the year following such changes. This paragraph (i)(3) does not apply to seasonal or other temporary cessation of operations. This paragraph (i)(3) does not apply to facilities with municipal solid waste landfills or industrial waste landfills, or to underground coal mines.

The owner or operator must resume reporting for any future calendar year during which any of the GHG-emitting processes or operations resume operation.

(j) Table A–2 of this subpart provides a conversion table for some of the common units of measure used in part 98.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 39758, July 12, 2010; 75 FR 57685, Sept. 22, 2010; 76 FR 73899, Nov. 29, 2011; 75 FR 74487, Nov. 30, 2010; 79 FR 73776, Dec. 11, 2014]

§ 98.3 What are the general monitoring, reporting, recordkeeping and verification requirements of this part?

The owner or operator of a facility or supplier that is subject to the requirements of this part must submit GHG reports to the Administrator, as specified in this section.

(a) *General*. Except as provided in paragraph (d) of this section, follow the procedures for emission calculation, monitoring, quality assurance, missing data, recordkeeping, and reporting that are specified in each relevant subpart of this part.

(b) *Schedule*. The annual GHG report for reporting year 2010 must be submitted no later than September 30, 2011. The annual report for reporting years 2011 and beyond must be submitted no later than March 31 of each calendar year for GHG emissions in the previous calendar year, except as provided in paragraph (b)(1) of this section.

(1) For reporting year 2011, facilities with one or more of the subparts listed in paragraphs (b)(1)(i) through (b)(1)(xi) of this section and suppliers listed in paragraph (b)(1)(xii) of this section are required to submit their annual GHG report no later than September 28, 2012. Facilities and suppliers that are submitting their second annual GHG report in 2012 and that are reporting on one or more subparts listed in paragraphs (b)(1)(i) through (b)(1)(xii) of this section must notify EPA by March 31, 2012 that they are not required to submit their annual GHG report until September 28, 2012.

(i) Electronics Manufacturing (subpart I).

(ii) Fluorinated Gas Production (subpart L).

(iii) Magnesium Production (subpart T).

(iv) Petroleum and Natural Gas Systems (subpart W).

(v) Use of Electric Transmission and Distribution Equipment (subpart DD).

(vi) Underground Coal Mines (subpart FF).

(vii) Industrial Wastewater Treatment (subpart II).

(viii) Geologic Sequestration of Carbon Dioxide (subpart RR).

(ix) Manufacture of Electric Transmission and Distribution (subpart SS).

(x) Industrial Waste Landfills (subpart TT).

(xi) Injection of Carbon Dioxide (subpart UU).

(xii) Imports and Exports of Equipment Pre-charged with Fluorinated GHGs or Containing Fluorinated GHGs in Closed-cell Foams (subpart QQ).

(2) For a new facility or supplier that begins operation on or after January 1, 2010 and becomes subject to the rule in the year that it becomes operational, report emissions beginning with the first operating month and ending on December 31 of that year. Each subsequent annual report must cover emissions for the calendar year, beginning on January 1 and ending on December 31.

(3) For any facility or supplier that becomes subject to this rule because of a physical or operational change that is made after January 1, 2010, report emissions for the first calendar year in which the change occurs, beginning with the first month of the change and ending on December 31 of that year. For a facility or supplier that becomes subject to this rule solely because of an increase in hours of operation or level of production, the first month of the change is the month in which the increased hours of operation or level of production, if maintained for the remainder of the year, would cause the facility or supplier to exceed the applicable threshold. Each subsequent annual report must cover emissions for the calendar year, beginning on January 1 and ending on December 31.

(4) Unless otherwise stated, if the final day of any time period falls on a weekend or a federal holiday, the time period shall be extended to the next business day.

(c) *Content of the annual report.* Except as provided in paragraph (d) of this section, each annual GHG report shall contain the following information:

(1) Facility name or supplier name (as appropriate), and physical street address of the facility or supplier, including the city, State, and zip code. If the facility does not have a physical street address, then the facility must provide the latitude and longitude representing the geographic centroid or center point of facility operations in decimal degree format. This must be provided in a comma-delimited ''latitude, longitude'' coordinate pair reported in decimal degrees to at least four digits to the right of the decimal point.

(2) Year and months covered by the report.

(3) Date of submittal.

(4) For facilities, except as otherwise provided in paragraph (c)(12) of this section, report annual emissions of CO_2, CH_4, N_2O, each fluorinated GHG (as defined in §98.6), and each fluorinated heat transfer fluid (as defined in §98.98) as follows.

(i) Annual emissions (excluding biogenic CO_2) aggregated for all GHG from all applicable source categories, expressed in metric tons of CO_2e calculated using Equation A–1 of this subpart. For electronics manufacturing (as defined in §98.90), starting in reporting year 2012 the CO_2e calculation must include each fluorinated heat transfer fluid (as defined in §98.98) whether or not it is also a fluorinated GHG.

(ii) Annual emissions of biogenic CO_2 aggregated for all applicable source categories, expressed in metric tons.

(iii) Annual emissions from each applicable source category, expressed in metric tons of each applicable GHG listed in paragraphs (c)(4)(iii)(A) through (c)(4)(iii)(E) of this section.

(A) Biogenic CO_2.

(B) CO_2 (excluding biogenic CO_2).

(C) CH_4.

(D) N_2O.

(E) Each fluorinated GHG (as defined in §98.6), except fluorinated gas production facilities must comply with §98.126(a) rather than this paragraph (c)(4)(iii)(E). If a fluorinated GHG does not have a chemical-specific GWP in Table A–1 of this subpart, identify and report the fluorinated GHG group of which that fluorinated GHG is a member.

(F) For electronics manufacturing (as defined in §98.90), each fluorinated heat transfer fluid (as defined in §98.98) that is not also a fluorinated GHG as specified under (c)(4)(iii)(E) of this section. If a fluorinated heat transfer fluid does not have a chemical-specific GWP in Table A–1 of this subpart, identify and report the fluorinated GHG group of which that fluorinated heat transfer fluid is a member.

(iv) Except as provided in paragraph (c)(4)(vii) of this section, emissions and other data for individual units, processes, activities, and operations as specified in the ''Data reporting requirements'' section of each applicable subpart of this part.

(v) Indicate (yes or no) whether reported emissions include emissions from a cogeneration unit located at the facility.

(vi) [Reserved]

(vii) The owner or operator of a facility is not required to report the data elements specified in Table A–6 of this subpart for calendar years 2010 through 2011 until March 31, 2013. The owner or operator of a facility is not required to report the data elements specified in Table A–7 of this subpart for calendar years 2010 through 2013 until March 31, 2015 (as part of the annual report for reporting year 2014), except as otherwise specified in Table A–7 of this subpart.

(viii) Applicable source categories means stationary fuel combustion sources (subpart C of this part), miscellaneous use of carbonates (subpart U of this part), and all of the source categories listed in Table A–3 and Table A–4 of this subpart present at the facility.

(5) For suppliers, report annual quantities of CO_2, CH_4, N_2O, and each fluorinated GHG (as defined in §98.6) that would be emitted from combustion or use of the products supplied, imported, and exported during the year. Calculate and report quantities at the following levels:

(i) Total quantity of GHG aggregated for all GHG from all applicable supply categories in Table A–5 of this subpart

and expressed in metric tons of CO_2e calculated using Equation A–1 of this subpart.

(ii) Quantity of each GHG from each applicable supply category in Table A–5 to this subpart, expressed in metric tons of each GHG.

(iii) Any other data specified in the ''Data reporting requirements'' section of each applicable subpart of this part.

(6) A written explanation, as required under § 98.3(e), if you change emission calculation methodologies during the reporting period.

(7) A brief description of each ''best available monitoring method'' used, the parameter measured using the method, and the time period during which the ''best available monitoring method'' was used, if applicable.

(8) Each data element for which a missing data procedure was used according to the procedures of an applicable subpart and the total number of hours in the year that a missing data procedure was used for each data element.

(9) A signed and dated certification statement provided by the designated representative of the owner or operator, according to the requirements of § 98.4(e)(1).

(10) NAICS code(s) that apply to the facility or supplier.

(i) *Primary NAICS code*. Report the NAICS code that most accurately describes the facility or supplier's primary product/activity/service. The primary product/activity/service is the principal source of revenue for the facility or supplier. A facility or supplier that has two distinct products/activities/services providing comparable revenue may report a second primary NAICS code.

(ii) *Additional NAICS code(s)*. Report all additional NAICS codes that describe all product(s)/activity(s)/service(s) at the facility or supplier that are not related to the principal source of revenue.

(11) Legal name(s) and physical address(es) of the highest-level United States parent company(s) of the owners (or operators) of the facility or supplier and the percentage of ownership interest for each listed parent company as of December 31 of the year for which data are being reported according to the following instructions:

(i) If the facility or supplier is entirely owned by a single United States company that is not owned by another company, provide that company's legal name and physical address as the United States parent company and report 100 percent ownership.

(ii) If the facility or supplier is entirely owned by a single United States company that is, itself, owned by another company (*e.g.*, it is a division or subsidiary of a higher-level company), provide the legal name and physical address of the highest-level company in the ownership hierarchy as the United States parent company and report 100 percent ownership.

(iii) If the facility or supplier is owned by more than one United States company (*e.g.*, company A owns 40 percent, company B owns 35 percent, and company C owns 25 percent), provide the legal names and physical addresses of all the highest-level companies with an ownership interest as the United States parent companies, and report the percent ownership of each company.

(iv) If the facility or supplier is owned by a joint venture or a cooperative, the joint venture or cooperative is its own United States parent company. Provide the legal name and physical address of the joint venture or cooperative as the United States parent company, and report 100 percent ownership by the joint venture or cooperative.

(v) If the facility or supplier is entirely owned by a foreign company, provide the legal name and physical address of the foreign company's highest-level company based in the United States as the United States parent company, and report 100 percent ownership.

(vi) If the facility or supplier is partially owned by a foreign company and partially owned by one or more U.S. companies, provide the legal name and physical address of the foreign company's highest-level company based in the United States, along with the legal names and physical addresses of the other U.S. parent companies, and report the percent ownership of each of these companies.

(vii) If the facility or supplier is a federally owned facility, report ''U.S. Government'' and do not report physical address or percent ownership.

(viii) The facility or supplier must refer to the reporting instructions of the electronic GHG reporting tool regarding standardized conventions for the naming of a parent company.

(12) For the 2010 reporting year only, facilities that have ''part 75 units'' (*i.e.* units that are subject to subpart D of this part or units that use the methods in part 75 of this chapter to quantify CO_2 mass emissions in accordance with §98.33(a)(5)) must report annual GHG emissions either in full accordance with paragraphs (c)(4)(i) through (c)(4)(iii) of this section or in full accordance with paragraphs (c)(12)(i) through (c)(12)(iii) of this section. If the latter reporting option is chosen, you must report:

(i) Annual emissions aggregated for all GHG from all applicable source categories, expressed in metric tons of CO_2e calculated using Equation A–1 of this subpart. You must include biogenic CO_2 emissions from part 75 units in these annual emissions, but exclude biogenic CO_2 emissions from any non-part 75 units and other source categories.

(ii) Annual emissions of biogenic CO_2, expressed in metric tons (excluding biogenic CO_2 emissions from part 75 units), aggregated for all applicable source categories.

(iii) Annual emissions from each applicable source category, expressed in metric tons of each applicable GHG listed in paragraphs (c)(12)(iii)(A) through (c)(12)(iii)(E) of this section.

(A) Biogenic CO_2 (excluding biogenic CO_2 emissions from part 75 units).

(B) CO_2. You must include biogenic CO_2 emissions from part 75 units in these totals and exclude biogenic CO_2 emissions from other non-part 75 units and other source categories.

(C) CH_4.

(D) N_2O.

(E) Each fluorinated GHG (including those not listed in Table A–1 of this subpart).

(13) An indication of whether the facility includes one or more plant sites that have been assigned a ''plant code'' (as defined under §98.6) by either the Department of Energy's Energy Information Administration or by the EPA's Clean Air Markets Division.

(d) *Special provisions for reporting year 2010.* (1) *Best available monitoring methods.* During January 1, 2010 through March 31, 2010, owners or operators may use best available monitoring methods for any parameter (e.g., fuel use, daily carbon content of feedstock by process line) that cannot reasonably be measured according to the monitoring and QA/QC requirements of a relevant subpart. The owner or operator must use the calculation methodologies and equations in the ''Calculating GHG Emissions'' sections of each relevant subpart, but may use the best available monitoring method for any parameter for which it is not reasonably feasible to acquire, install, and operate a required piece of monitoring equipment by January 1, 2010. Starting no later than April 1, 2010, the owner or operator must discontinue using best available methods and begin following all applicable monitoring and QA/QC requirements of this part, except as provided in paragraphs (d)(2) and (d)(3) of this section. Best available monitoring methods means any of the following methods specified in this paragraph:

(i) Monitoring methods currently used by the facility that do not meet the specifications of an relevant subpart.

(ii) Supplier data.

(iii) Engineering calculations.

(iv) Other company records.

(2) *Requests for extension of the use of best available monitoring methods.* The owner or operator may submit a request to the Administrator to use one or more best available monitoring methods beyond March 31, 2010.

(i) *Timing of request.* The extension request must be submitted to EPA no later than 30 days after the effective date of the GHG reporting rule.

(ii) *Content of request.* Requests must contain the following information:

(A) A list of specific item of monitoring instrumentation for which the request is being made and the locations where each piece of monitoring instrumentation will be installed.

(B) Identification of the specific rule requirements (by rule subpart, section,

and paragraph numbers) for which the instrumentation is needed.

(C) A description of the reasons why the needed equipment could not be obtained and installed before April 1, 2010.

(D) If the reason for the extension is that the equipment cannot be purchased and delivered by April 1, 2010, include supporting documentation such as the date the monitoring equipment was ordered, investigation of alternative suppliers and the dates by which alternative vendors promised delivery, backorder notices or unexpected delays, descriptions of actions taken to expedite delivery, and the current expected date of delivery.

(E) If the reason for the extension is that the equipment cannot be installed without a process unit shutdown, include supporting documentation demonstrating that it is not practicable to isolate the equipment and install the monitoring instrument without a full process unit shutdown. Include the date of the most recent process unit shutdown, the frequency of shutdowns for this process unit, and the date of the next planned shutdown during which the monitoring equipment can be installed. If there has been a shutdown or if there is a planned process unit shutdown between promulgation of this part and April 1, 2010, include a justification of why the equipment could not be obtained and installed during that shutdown.

(F) A description of the specific actions the facility will take to obtain and install the equipment as soon as reasonably feasible and the expected date by which the equipment will be installed and operating.

(iii) *Approval criteria*. To obtain approval, the owner or operator must demonstrate to the Administrator's satisfaction that it is not reasonably feasible to acquire, install, and operate a required piece of monitoring equipment by April 1, 2010. The use of best available methods will not be approved beyond December 31, 2010.

(3) *Abbreviated emissions report for facilities containing only general stationary fuel combustion sources*. In lieu of the report required by paragraph (c) of this section, the owner or operator of an existing facility that is in operation on January 1, 2010 and that meets the conditions of § 98.2(a)(3) may submit an abbreviated GHG report for the facility for GHGs emitted in 2010. The abbreviated report must be submitted by September 30, 2011. An owner or operator that submits an abbreviated report must submit a full GHG report according to the requirements of paragraph (c) of this section beginning in calendar year 2012. The abbreviated facility report must include the following information:

(i) Facility name and physical street address including the city, state and zip code.

(ii) The year and months covered by the report.

(iii) Date of submittal.

(iv) Total facility GHG emissions aggregated for all stationary fuel combustion units calculated according to any method specified in § 98.33(a) and expressed in metric tons of CO_2, CH_4, N_2O, and CO_2e.

(v) For each stationary fuel combustion source that meets the criteria specified in § 98.36(f), report any facility operating data or process information used for the GHG emission calculations. A stationary fuel combustion source that does not meet the criteria specified in § 98.36(f) must either report the data specified in this paragraph (d)(3)(v) in the annual report or use verification software according to § 98.5(b) in lieu of reporting the data specified in this paragraph.

(vi) A signed and dated certification statement provided by the designated representative of the owner or operator, according to the requirements of paragraph (e)(1) of this section.

(e) *Emission calculations*. In preparing the GHG report, you must use the calculation methodologies specified in the relevant subparts, except as specified in paragraph (d) of this section. For each source category, you must use the same calculation methodology throughout a reporting period unless you provide a written explanation of why a change in methodology was required.

(f) *Verification*. To verify the completeness and accuracy of reported GHG emissions, the Administrator may review the certification statements described in paragraphs (c)(9) and

(d)(3)(vi) of this section and any other credible evidence, in conjunction with a comprehensive review of the GHG reports and periodic audits of selected reporting facilities. Nothing in this section prohibits the Administrator from using additional information to verify the completeness and accuracy of the reports.

(g) *Recordkeeping*. An owner or operator that is required to report GHGs under this part must keep records as specified in this paragraph (g). Except as otherwise provided in this paragraph, retain all required records for at least 3 years from the date of submission of the annual GHG report for the reporting year in which the record was generated. The records shall be kept in an electronic or hard-copy format (as appropriate) and recorded in a form that is suitable for expeditious inspection and review. If the owner or operator of a facility is required under §98.5(b) to use verification software specified by the Administrator, then all records required for the facility under this part must be retained for at least 5 years from the date of submission of the annual GHG report for the reporting year in which the record was generated, starting with records for reporting year 2010. Upon request by the Administrator, the records required under this section must be made available to EPA. Records may be retained off site if the records are readily available for expeditious inspection and review. For records that are electronically generated or maintained, the equipment or software necessary to read the records shall be made available, or, if requested by EPA, electronic records shall be converted to paper documents. You must retain the following records, in addition to those records prescribed in each applicable subpart of this part:

(1) A list of all units, operations, processes, and activities for which GHG emission were calculated.

(2) The data used to calculate the GHG emissions for each unit, operation, process, and activity, categorized by fuel or material type. These data include but are not limited to the following information in this paragraph (g)(2):

(i) The GHG emissions calculations and methods used. For data required by §98.5(b) to be entered into verification software specified in §98.5(b), maintain the entered data in the format generated by the verification software according to §98.5(b).

(ii) Analytical results for the development of site-specific emissions factors.

(iii) The results of all required analyses for high heat value, carbon content, and other required fuel or feedstock parameters.

(iv) Any facility operating data or process information used for the GHG emission calculations.

(3) The annual GHG reports.

(4) Missing data computations. For each missing data event, also retain a record of the cause of the event and the corrective actions taken to restore malfunctioning monitoring equipment.

(5) A written GHG Monitoring Plan.

(i) At a minimum, the GHG Monitoring Plan shall include the elements listed in this paragraph (g)(5)(i).

(A) Identification of positions of responsibility (i.e., job titles) for collection of the emissions data.

(B) Explanation of the processes and methods used to collect the necessary data for the GHG calculations.

(C) Description of the procedures and methods that are used for quality assurance, maintenance, and repair of all continuous monitoring systems, flow meters, and other instrumentation used to provide data for the GHGs reported under this part.

(ii) The GHG Monitoring Plan may rely on references to existing corporate documents (e.g., standard operating procedures, quality assurance programs under appendix F to 40 CFR part 60 or appendix B to 40 CFR part 75, and other documents) provided that the elements required by paragraph (g)(5)(i) of this section are easily recognizable.

(iii) The owner or operator shall revise the GHG Monitoring Plan as needed to reflect changes in production processes, monitoring instrumentation, and quality assurance procedures; or to improve procedures for the maintenance and repair of monitoring systems to reduce the frequency of monitoring equipment downtime.

(iv) Upon request by the Administrator, the owner or operator shall make all information that is collected in conformance with the GHG Monitoring Plan available for review during an audit. Electronic storage of the information in the plan is permissible, provided that the information can be made available in hard copy upon request during an audit.

(6) The results of all required certification and quality assurance tests of continuous monitoring systems, fuel flow meters, and other instrumentation used to provide data for the GHGs reported under this part.

(7) Maintenance records for all continuous monitoring systems, flow meters, and other instrumentation used to provide data for the GHGs reported under this part.

(h) *Annual GHG report revisions.* (1) The owner or operator shall submit a revised annual GHG report within 45 days of discovering that an annual GHG report that the owner or operator previously submitted contains one or more substantive errors. The revised report must correct all substantive errors.

(2) The Administrator may notify the owner or operator in writing that an annual GHG report previously submitted by the owner or operator contains one or more substantive errors. Such notification will identify each such substantive error. The owner or operator shall, within 45 days of receipt of the notification, either resubmit the report that, for each identified substantive error, corrects the identified substantive error (in accordance with the applicable requirements of this part) or provide information demonstrating that the previously submitted report does not contain the identified substantive error or that the identified error is not a substantive error.

(3) A substantive error is an error that impacts the quantity of GHG emissions reported or otherwise prevents the reported data from being validated or verified.

(4) Notwithstanding paragraphs (h)(1) and (2) of this section, upon request by the owner or operator, the Administrator may provide reasonable extensions of the 45-day period for submission of the revised report or information under paragraphs (h)(1) and (2) of this section. If the Administrator receives a request for extension of the 45-day period, by email to an address prescribed by the Administrator prior to the expiration of the 45-day period, the extension request is deemed to be automatically granted for 30 days. The Administrator may grant an additional extension beyond the automatic 30-day extension if the owner or operator submits a request for an additional extension and the request is received by the Administrator at least 5 business days prior to the expiration of the automatic 30-day extension, provided the request demonstrates that it is not practicable to submit a revised report or information under paragraphs (h)(1) and (2) within 75 days. The Administrator will approve the extension request if the request demonstrates to the Administrator's satisfaction that it is not practicable to collect and process the data needed to resolve potential reporting errors identified pursuant to paragraphs (h)(1) or (2) of this section within 75 days.

(5) The owner or operator shall retain documentation for 3 years to support any revision made to an annual GHG report.

(i) *Calibration accuracy requirements.* The owner or operator of a facility or supplier that is subject to the requirements of this part must meet the applicable flow meter calibration and accuracy requirements of this paragraph (i). The accuracy specifications in this paragraph (i) do not apply where either the use of company records (as defined in § 98.6) or the use of ''best available information'' is specified in an applicable subpart of this part to quantify fuel usage and/or other parameters. Further, the provisions of this paragraph (i) do not apply to stationary fuel combustion units that use the methodologies in part 75 of this chapter to calculate CO_2 mass emissions.

(1) Except as otherwise provided in paragraphs (i)(4) through (i)(6) of this section, flow meters that measure liquid and gaseous fuel feed rates, process stream flow rates, or feedstock flow rates and provide data for the GHG emissions calculations shall be calibrated prior to April 1, 2010 using the

procedures specified in this paragraph (i) when such calibration is specified in a relevant subpart of this part. Each of these flow meters shall meet the applicable accuracy specification in paragraph (i)(2) or (i)(3) of this section. All other measurement devices (*e.g.*, weighing devices) that are required by a relevant subpart of this part, and that are used to provide data for the GHG emissions calculations, shall also be calibrated prior to April 1, 2010; however, the accuracy specifications in paragraphs (i)(2) and (i)(3) of this section do not apply to these devices. Rather, each of these measurement devices shall be calibrated to meet the accuracy requirement specified for the device in the applicable subpart of this part, or, in the absence of such accuracy requirement, the device must be calibrated to an accuracy within the appropriate error range for the specific measurement technology, based on an applicable operating standard, including but not limited to manufacturer's specifications and industry standards. The procedures and methods used to quality-assure the data from each measurement device shall be documented in the written monitoring plan, pursuant to paragraph (g)(5)(i)(C) of this section.

(i) All flow meters and other measurement devices that are subject to the provisions of this paragraph (i) must be calibrated according to one of the following: You may use the manufacturer's recommended procedures; an appropriate industry consensus standard method; or a method specified in a relevant subpart of this part. The calibration method(s) used shall be documented in the monitoring plan required under paragraph (g) of this section.

(ii) For facilities and suppliers that become subject to this part after April 1, 2010, all flow meters and other measurement devices (if any) that are required by the relevant subpart(s) of this part to provide data for the GHG emissions calculations shall be installed no later than the date on which data collection is required to begin using the measurement device, and the initial calibration(s) required by this paragraph (i) (if any) shall be performed no later than that date.

(iii) Except as otherwise provided in paragraphs (i)(4) through (i)(6) of this section, subsequent recalibrations of the flow meters and other measurement devices subject to the requirements of this paragraph (i) shall be performed at one of the following frequencies:

(A) You may use the frequency specified in each applicable subpart of this part.

(B) You may use the frequency recommended by the manufacturer or by an industry consensus standard practice, if no recalibration frequency is specified in an applicable subpart.

(2) Perform all flow meter calibration at measurement points that are representative of the normal operating range of the meter. Except for the orifice, nozzle, and venturi flow meters described in paragraph (i)(3) of this section, calculate the calibration error at each measurement point using Equation A–2 of this section. The terms ''R'' and ''A'' in Equation A–2 must be expressed in consistent units of measure (*e.g.*, gallons/minute, ft^3/min). The calibration error at each measurement point shall not exceed 5.0 percent of the reference value.

$$CE = \frac{|R - A|}{R} \; x \; 100 \qquad \text{(Eq. A-2)}$$

where:

CE = Calibration error (%).

R = Reference value.

A = Flow meter response to the reference value.

(3) For orifice, nozzle, and venturi flow meters, the initial quality assurance consists of in-situ calibration of the differential pressure (delta-P),

total pressure, and temperature transmitters.

(i) Calibrate each transmitter at a zero point and at least one upscale point. Fixed reference points, such as the freezing point of water, may be used for temperature transmitter calibrations. Calculate the calibration error of each transmitter at each measurement point, using Equation A–3 of this subpart. The terms ''R,'' ''A,'' and ''FS'' in Equation A–3 of this subpart must be in consistent units of measure (*e.g.*, milliamperes, inches of water, psi, degrees). For each transmitter, the CE value at each measurement point shall not exceed 2.0 percent of full-scale. Alternatively, the results are acceptable if the sum of the calculated CE values for the three transmitters at each calibration level (*i.e.*, at the zero level and at each upscale level) does not exceed 6.0 percent.

$$CE = \frac{|R - A|}{FS} \; x \; 100 \qquad \text{(Eq. A-3)}$$

where:
CE = Calibration error (%).
R = Reference value.
A = Transmitter response to the reference value.
FS = Full-scale value of the transmitter.

(ii) In cases where there are only two transmitters (*i.e.*, differential pressure and either temperature or total pressure) in the immediate vicinity of the flow meter's primary element (*e.g.*, the orifice plate), or when there is only a differential pressure transmitter in close proximity to the primary element, calibration of these existing transmitters to a CE of 2.0 percent or less at each measurement point is still required, in accordance with paragraph (i)(3)(i) of this section; alternatively, when two transmitters are calibrated, the results are acceptable if the sum of the CE values for the two transmitters at each calibration level does not exceed 4.0 percent. However, note that installation and calibration of an additional transmitter (or transmitters) at the flow monitor location to measure temperature or total pressure or both is not required in these cases. Instead, you may use assumed values for temperature and/or total pressure, based on measurements of these parameters at a remote location (or locations), provided that the following conditions are met:

(A) You must demonstrate that measurements at the remote location(s) can, when appropriate correction factors are applied, reliably and accurately represent the actual temperature or total pressure at the flow meter under all expected ambient conditions.

(B) You must make all temperature and/or total pressure measurements in the demonstration described in paragraph (i)(3)(ii)(A) of this section with calibrated gauges, sensors, transmitters, or other appropriate measurement devices. At a minimum, calibrate each of these devices to an accuracy within the appropriate error range for the specific measurement technology, according to one of the following. You may calibrate using a manufacturer's specification or an industry consensus standard.

(C) You must document the methods used for the demonstration described in paragraph (i)(3)(ii)(A) of this section in the written GHG Monitoring Plan under paragraph (g)(5)(i)(C) of this section. You must also include the data from the demonstration, the mathematical correlation(s) between the remote readings and actual flow meter conditions derived from the data, and any supporting engineering calculations in the GHG Monitoring Plan. You must maintain all of this information in a format suitable for auditing and inspection.

(D) You must use the mathematical correlation(s) derived from the demonstration described in paragraph (i)(3)(ii)(A) of this section to convert the remote temperature or the total pressure readings, or both, to the actual temperature or total pressure at

the flow meter, or both, on a daily basis. You shall then use the actual temperature and total pressure values to correct the measured flow rates to standard conditions.

(E) You shall periodically check the correlation(s) between the remote and actual readings (at least once a year), and make any necessary adjustments to the mathematical relationship(s).

(4) Fuel billing meters are exempted from the calibration requirements of this section and from the GHG Monitoring Plan and recordkeeping provisions of paragraphs (g)(5)(i)(C), (g)(6), and (g)(7) of this section, provided that the fuel supplier and any unit combusting the fuel do not have any common owners and are not owned by subsidiaries or affiliates of the same company. Meters used exclusively to measure the flow rates of fuels that are used for unit startup are also exempted from the calibration requirements of this section.

(5) For a flow meter that has been previously calibrated in accordance with paragraph (i)(1) of this section, an additional calibration is not required by the date specified in paragraph (i)(1) of this section if, as of that date, the previous calibration is still active (*i.e.*, the device is not yet due for recalibration because the time interval between successive calibrations has not elapsed). In this case, the deadline for the successive calibrations of the flow meter shall be set according to one of the following. You may use either the manufacturer's recommended calibration schedule or you may use the industry consensus calibration schedule.

(6) For units and processes that operate continuously with infrequent outages, it may not be possible to meet the April 1, 2010 deadline for the initial calibration of a flow meter or other measurement device without disrupting normal process operation. In such cases, the owner or operator may postpone the initial calibration until the next scheduled maintenance outage. The best available information from company records may be used in the interim. The subsequent required recalibrations of the flow meters may be similarly postponed. Such postponements shall be documented in the monitoring plan that is required under paragraph (g)(5) of this section.

(7) If the results of an initial calibration or a recalibration fail to meet the required accuracy specification, data from the flow meter shall be considered invalid, beginning with the hour of the failed calibration and continuing until a successful calibration is completed. You shall follow the missing data provisions provided in the relevant missing data sections during the period of data invalidation.

(j) *Measurement device installation*—(1) *General*. If an owner or operator required to report under subpart P, subpart X or subpart Y of this part has process equipment or units that operate continuously and it is not possible to install a required flow meter or other measurement device by April 1, 2010, (or by any later date in 2010 approved by the Administrator as part of an extension of best available monitoring methods per paragraph (d) of this section) without process equipment or unit shutdown, or through a hot tap, the owner or operator may request an extension from the Administrator to delay installing the measurement device until the next scheduled process equipment or unit shutdown. If approval for such an extension is granted by the Administrator, the owner or operator must use best available monitoring methods during the extension period.

(2) *Requests for extension of the use of best available monitoring methods for measurement device installation*. The owner or operator must first provide the Administrator an initial notification of the intent to submit an extension request for use of best available monitoring methods beyond December 31, 2010 (or an earlier date approved by EPA) in cases where measurement device installation would require a process equipment or unit shutdown, or could only be done through a hot tap. The owner or operator must follow-up this initial notification with the complete extension request containing the information specified in paragraph (j)(4) of this section.

(3) *Timing of request*. (i) The initial notice of intent must be submitted no later than January 1, 2011, or by the

end of the approved use of best available monitoring methods extension in 2010, whichever is earlier. The completed extension request must be submitted to the Administrator no later than February 15, 2011.

(ii) Any subsequent extensions to the original request must be submitted to the Administrator within 4 weeks of the owner or operator identifying the need to extend the request, but in any event no later than 4 weeks before the date for the planned process equipment or unit shutdown that was provided in the original or most recently approved request.

(4) *Content of the request.* Requests must contain the following information:

(i) Specific measurement device for which the request is being made and the location where each measurement device will be installed.

(ii) Identification of the specific rule requirements (by rule subpart, section, and paragraph numbers) requiring the measurement device.

(iii) A description of the reasons why the needed equipment could not be installed before April 1, 2010, or by the expiration date for the use of best available monitoring methods, in cases where an extension has been granted under § 98.3(d).

(iv) Supporting documentation showing that it is not practicable to isolate the process equipment or unit and install the measurement device without a full shutdown or a hot tap, and that there was no opportunity during 2010 to install the device. Include the date of the three most recent shutdowns for each relevant process equipment or unit, the frequency of shutdowns for each relevant process equipment or unit, and the date of the next planned process equipment or unit shutdown.

(v) Include a description of the proposed best available monitoring method for estimating GHG emissions during the time prior to installation of the meter.

(5) *Approval criteria.* The owner or operator must demonstrate to the Administrator's satisfaction that it is not reasonably feasible to install the measurement device before April 1, 2010 (or by the expiration date for the use of best available monitoring methods, in cases where an extension has been granted under paragraph (d) of this section) without a process equipment or unit shutdown, or through a hot tap, and that the proposed method for estimating GHG emissions during the time before which the measurement device will be installed is appropriate. The Administrator will not initially approve the use of the proposed best available monitoring method past December 31, 2013.

(6) *Measurement device installation deadline.* Any owner or operator that submits both a timely initial notice of intent and a timely completed extension request under paragraph (j)(3) of this section to extend use of best available monitoring methods for measurement device installation must install all such devices by July 1, 2011 unless the extension request under this paragraph (j) is approved by the Administrator before July 1, 2011.

(7) *One time extension past December 31, 2013.* If an owner or operator determines that a scheduled process equipment or unit shutdown will not occur by December 31, 2013, the owner or operator may re-apply to use best available monitoring methods for one additional time period, not to extend beyond December 31, 2015. To extend use of best available monitoring methods past December 31, 2013, the owner or operator must submit a new extension request by June 1, 2013 that contains the information required in paragraph (j)(4) of this section. The owner or operator must demonstrate to the Administrator's satisfaction that it continues to not be reasonably feasible to install the measurement device before December 31, 2013 without a process equipment or unit shutdown, or that installation of the measurement device could only be done through a hot tap, and that the proposed method for estimating GHG emissions during the time before which the measurement device will be installed is appropriate. An owner or operator that submits a request under this paragraph to extend use of best available monitoring methods for measurement device installation must install all such devices by December 31, 2013, unless the extension request under this paragraph is approved by the Administrator.

(k) *Revised global warming potentials and special provisions for reporting year 2013 and subsequent reporting years.* This paragraph (k) applies to owners or operators of facilities or suppliers that first become subject to any subpart of part 98 solely due to an amendment to Table A–1 of this subpart.

(1) A facility or supplier that first becomes subject to part 98 due to a change in the GWP for one or more compounds in Table A–1 of this subpart, Global Warming Potentials, is not required to submit an annual GHG report for the reporting year during which the change in GWPs is published.

(2) A facility or supplier that was already subject to one or more subparts of part 98 but becomes subject to one or more additional subparts due to a change in the GWP for one or more compounds in Table A–1 of this subpart, is not required to include those subparts to which the facility is subject only due to the change in the GWP in the annual GHG report submitted for the reporting year during which the change in GWPs is published.

(3) Starting on January 1 of the year after the year during which the change in GWPs is published, facilities or suppliers identified in paragraphs (k)(1) or (2) of this section must start monitoring and collecting GHG data in compliance with the applicable subparts of part 98 to which the facility is subject due to the change in the GWP for the annual greenhouse gas report for that reporting year, which is due by March 31 of the following calendar year.

(4) A change in the GWP for one or more compounds includes the addition to Table A–1 of this subpart of either a chemical-specific or a default GWP that applies to a compound to which no chemical-specific GWP in Table A–1 of this subpart previously applied.

(l) *Special provision for best available monitoring methods in 2014 and subsequent years.* This paragraph (l) applies to owners or operators of facilities or suppliers that first become subject to any subpart of part 98 due to an amendment to Table A–1 of this subpart, Global Warming Potentials.

(1) *Best available monitoring methods.* From January 1 to March 31 of the year after the year during which the change in GWPs is published, owners or operators subject to this paragraph (l) may use best available monitoring methods for any parameter (*e.g.*, fuel use, feedstock rates) that cannot reasonably be measured according to the monitoring and QA/QC requirements of a relevant subpart. The owner or operator must use the calculation methodologies and equations in the ''Calculating GHG Emissions'' sections of each relevant subpart, but may use the best available monitoring method for any parameter for which it is not reasonably feasible to acquire, install, and operate a required piece of monitoring equipment by January 1 of the year after the year during which the change in GWPs is published. Starting no later than April 1 of the year after the year during which the change in GWPs is published, the owner or operator must discontinue using best available methods and begin following all applicable monitoring and QA/QC requirements of this part, except as provided in paragraph (l)(2) of this section. Best available monitoring methods means any of the following methods:

(i) Monitoring methods currently used by the facility that do not meet the specifications of a relevant subpart.

(ii) Supplier data.

(iii) Engineering calculations.

(iv) Other company records.

(2) *Requests for extension of the use of best available monitoring methods.* The owner or operator may submit a request to the Administrator to use one or more best available monitoring methods beyond March 31 of the year after the year during which the change in GWPs is published.

(i) *Timing of request.* The extension request must be submitted to EPA no later than January 31 of the year after the year during which the change in GWPs is published.

(ii) *Content of request.* Requests must contain the following information:

(A) A list of specific items of monitoring instrumentation for which the request is being made and the locations where each piece of monitoring instrumentation will be installed.

(B) Identification of the specific rule requirements (by rule subpart, section, and paragraph numbers) for which the instrumentation is needed.

(C) A description of the reasons that the needed equipment could not be obtained and installed before April 1 of the year after the year during which the change in GWPs is published.

(D) If the reason for the extension is that the equipment cannot be purchased and delivered by April 1 of the year after the year during which the change in GWPs is published, include supporting documentation such as the date the monitoring equipment was ordered, investigation of alternative suppliers and the dates by which alternative vendors promised delivery, backorder notices or unexpected delays, descriptions of actions taken to expedite delivery, and the current expected date of delivery.

(E) If the reason for the extension is that the equipment cannot be installed without a process unit shutdown, include supporting documentation demonstrating that it is not practicable to isolate the equipment and install the monitoring instrument without a full process unit shutdown. Include the date of the most recent process unit shutdown, the frequency of shutdowns for this process unit, and the date of the next planned shutdown during which the monitoring equipment can be installed. If there has been a shutdown or if there is a planned process unit shutdown between November 29 of the year during which the change in GWPs is published and April 1 of the year after the year during which the change in GWPs is published, include a justification of why the equipment could not be obtained and installed during that shutdown.

(F) A description of the specific actions the facility will take to obtain and install the equipment as soon as reasonably feasible and the expected date by which the equipment will be installed and operating.

(iii) *Approval criteria.* To obtain approval, the owner or operator must demonstrate to the Administrator's satisfaction that it is not reasonably feasible to acquire, install, and operate a required piece of monitoring equipment by April 1 of the year after the year during which the change in GWPs is published. The use of best available methods under this paragraph (l) will not be approved beyond December 31 of the year after the year during which the change in GWPs is published.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 39758, July 12, 2010; 75 FR 57685, Sept. 22, 2010; 75 FR 74816, Dec. 1, 2010; 75 FR 79134, Dec. 17, 2010; 75 FR 81344, Dec. 27, 2010; 76 FR 14818, Mar. 18, 2011; 76 FR 53065, Aug. 25, 2011; 76 FR 73899, Nov. 29, 2011; 77 FR 51488, Aug. 24, 2012; 78 FR 71946, Nov. 29, 2013; 79 FR 63779, Oct. 24, 2014; 79 FR 73777, Dec. 11, 2014; 79 FR 77391, Dec. 24, 2014]

§ 98.4 Authorization and responsibilities of the designated representative.

(a) *General.* Except as provided under paragraph (f) of this section, each facility, and each supplier, that is subject to this part, shall have one and only one designated representative, who shall be responsible for certifying, signing, and submitting GHG emissions reports and any other submissions for such facility and supplier respectively to the Administrator under this part. If the facility is required under any other part of title 40 of the Code of Federal Regulations to submit to the Administrator any other emission report that is subject to any requirement in 40 CFR part 75, the same individual shall be the designated representative responsible for certifying, signing, and submitting the GHG emissions reports and all such other emissions reports under this part.

(b) *Authorization of a designated representative.* The designated representative of the facility or supplier shall be an individual selected by an agreement binding on the owners and operators of such facility or supplier and shall act in accordance with the certification statement in paragraph (i)(4)(iv) of this section.

(c) *Responsibility of the designated representative.* Upon receipt by the Administrator of a complete certificate of representation under this section for a facility or supplier, the designated representative identified in such certificate of representation shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of such facility or supplier in all matters pertaining to this part, notwithstanding any agreement between the designated representative and such owners and operators. The owners and

operators shall be bound by any decision or order issued to the designated representative by the Administrator or a court.

(d) *Timing*. No GHG emissions report or other submissions under this part for a facility or supplier will be accepted until the Administrator has received a complete certificate of representation under this section for a designated representative of the facility or supplier. Such certificate of representation shall be submitted at least 60 days before the deadline for submission of the facility's or supplier's initial emission report under this part.

(e) *Certification of the GHG emissions report*. Each GHG emission report and any other submission under this part for a facility or supplier shall be certified, signed, and submitted by the designated representative or any alternate designated representative of the facility or supplier in accordance with this section and §3.10 of this chapter.

(1) Each such submission shall include the following certification statement signed by the designated representative or any alternate designated representative: ''I am authorized to make this submission on behalf of the owners and operators of the facility or supplier, as applicable, for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.''

(2) The Administrator will accept a GHG emission report or other submission for a facility or supplier under this part only if the submission is certified, signed, and submitted in accordance with this section.

(f) *Alternate designated representative*. A certificate of representation under this section for a facility or supplier may designate one alternate designated representative, who shall be an individual selected by an agreement binding on the owners and operators, and may act on behalf of the designated representative, of such facility or supplier. The agreement by which the alternate designated representative is selected shall include a procedure for authorizing the alternate designated representative to act in lieu of the designated representative.

(1) Upon receipt by the Administrator of a complete certificate of representation under this section for a facility or supplier identifying an alternate designated representative.

(i) The alternate designated representative may act on behalf of the designated representative for such facility or supplier.

(ii) Any representation, action, inaction, or submission by the alternate designated representative shall be deemed to be a representation, action, inaction, or submission by the designated representative.

(2) Except in this section, whenever the term ''designated representative'' is used in this part, the term shall be construed to include the designated representative or any alternate designated representative.

(g) *Changing a designated representative or alternate designated representative*. The designated representative or alternate designated representative identified in a complete certificate of representation under this section for a facility or supplier received by the Administrator may be changed at any time upon receipt by the Administrator of another later signed, complete certificate of representation under this section for the facility or supplier. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous designated representative or the previous alternate designated representative of the facility or supplier before the time and date when the Administrator receives such later signed certificate of representation shall be binding on the new designated representative and the owners and operators of the facility or supplier.

(h) *Changes in owners and operators*. In the event an owner or operator of

the facility or supplier is not included in the list of owners and operators in the certificate of representation under this section for the facility or supplier, such owner or operator shall be deemed to be subject to and bound by the certificate of representation, the representations, actions, inactions, and submissions of the designated representative and any alternate designated representative of the facility or supplier, as if the owner or operator were included in such list. Within 90 days after any change in the owners and operators of the facility or supplier (including the addition of a new owner or operator), the designated representative or any alternate designated representative shall submit a certificate of representation that is complete under this section except that such list shall be amended to reflect the change. If the designated representative or alternate designated representative determines at any time that an owner or operator of the facility or supplier is not included in such list and such exclusion is not the result of a change in the owners and operators, the designated representative or any alternate designated representative shall submit, within 90 days of making such determination, a certificate of representation that is complete under this section except that such list shall be amended to include such owner or operator.

(i) *Certificate of representation*. A certificate of representation shall be complete if it includes the following elements in a format prescribed by the Administrator in accordance with this section:

(1) Identification of the facility or supplier for which the certificate of representation is submitted.

(2) The name, organization name (company affiliation-employer), address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of the designated representative and any alternate designated representative.

(3) A list of the owners and operators of the facility or supplier identified in paragraph (i)(1) of this section, provided that, if the list includes the operators of the facility or supplier and the owners with control of the facility or supplier, the failure to include any other owners shall not make the certificate of representation incomplete.

(4) The following certification statements by the designated representative and any alternate designated representative:

(i) ''I certify that I was selected as the designated representative or alternate designated representative, as applicable, by an agreement binding on the owners and operators of the facility or supplier, as applicable.''

(ii) ''I certify that I have all the necessary authority to carry out my duties and responsibilities under 40 CFR part 98 on behalf of the owners and operators of the facility or supplier, as applicable, and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions.''

(iii) ''I certify that the owners and operators of the facility or supplier, as applicable, shall be bound by any order issued to me by the Administrator or a court regarding the facility or supplier.''

(iv) ''If there are multiple owners and operators of the facility or supplier, as applicable, I certify that I have given a written notice of my selection as the 'designated representative' or 'alternate designated representative', as applicable, and of the agreement by which I was selected to each owner and operator of the facility or supplier.''

(5) The signature of the designated representative and any alternate designated representative and the dates signed.

(j) *Documents of agreement*. Unless otherwise required by the Administrator, documents of agreement referred to in the certificate of representation shall not be submitted to the Administrator. The Administrator shall not be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

(k) *Binding nature of the certificate of representation*. Once a complete certificate of representation under this section for a facility or supplier has been received, the Administrator will rely on the certificate of representation unless and until a later signed, complete certificate of representation under this

section for the facility or supplier is received by the Administrator.

(l) *Objections concerning a designated representative.* (1) Except as provided in paragraph (g) of this section, no objection or other communication submitted to the Administrator concerning the authorization, or any representation, action, inaction, or submission, of the designated representative or alternate designated representative shall affect any representation, action, inaction, or submission of the designated representative or alternate designated representative, or the finality of any decision or order by the Administrator under this part.

(2) The Administrator will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any designated representative or alternate designated representative.

(m) *Delegation by designated representative and alternate designated representative.* (1) A designated representative or an alternate designated representative may delegate his or her own authority, to one or more individuals, to submit an electronic submission to the Administrator provided for or required under this part, except for a submission under this paragraph.

(2) In order to delegate his or her own authority, to one or more individuals, to submit an electronic submission to the Administrator in accordance with paragraph (m)(1) of this section, the designated representative or alternate designated representative must submit electronically to the Administrator a notice of delegation, in a format prescribed by the Administrator, that includes the following elements:

(i) The name, organization name (company affiliation-employer) address, e-mail address (if any), telephone number, and facsimile transmission number (if any) of such designated representative or alternate designated representative.

(ii) The name, address, e-mail address, telephone number, and facsimile transmission number (if any) of each such individual (referred to as an ''agent'').

(iii) For each such individual, a list of the type or types of electronic submissions under paragraph (m)(1) of this section for which authority is delegated to him or her.

(iv) For each type of electronic submission listed in accordance with paragraph (m)(2)(iii) of this section, the facility or supplier for which the electronic submission may be made.

(v) The following certification statements by such designated representative or alternate designated representative:

(A) ''I agree that any electronic submission to the Administrator that is by an agent identified in this notice of delegation and of a type listed, and for a facility or supplier designated, for such agent in this notice of delegation and that is made when I am a designated representative or alternate designated representative, as applicable, and before this notice of delegation is superseded by another notice of delegation under §98.4(m)(3) shall be deemed to be an electronic submission certified, signed, and submitted by me.''

(B) ''Until this notice of delegation is superseded by a later signed notice of delegation under §98.4(m)(3), I agree to maintain an e-mail account and to notify the Administrator immediately of any change in my e-mail address unless all delegation of authority by me under §98.4(m) is terminated.''

(vi) The signature of such designated representative or alternate designated representative and the date signed.

(3) A notice of delegation submitted in accordance with paragraph (m)(2) of this section shall be effective, with regard to the designated representative or alternate designated representative identified in such notice, upon receipt of such notice by the Administrator and until receipt by the Administrator of another such notice that was signed later by such designated representative or alternate designated representative, as applicable. The later signed notice of delegation may replace any previously identified agent, add a new agent, or eliminate entirely any delegation of authority.

(4) Any electronic submission covered by the certification in paragraph (m)(2)(v)(A) of this section and made in accordance with a notice of delegation effective under paragraph (m)(3) of this

section shall be deemed to be an electronic submission certified, signed, and submitted by the designated representative or alternate designated representative submitting such notice of delegation.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79137, Dec. 17, 2010; 76 FR 73900, Nov. 29, 2011]

§ 98.5 How is the report submitted?

(a) Each GHG report and certificate of representation for a facility or supplier must be submitted electronically in accordance with the requirements of § 98.4 and in a format specified by the Administrator.

(b) For reporting year 2014 and thereafter, unless a later year is specified in the applicable recordkeeping section, you must enter into verification software specified by the Administrator the data specified in the verification software records provision in each applicable recordkeeping section. For each data element entered into the verification software, if the software produces a warning message for the data value and you elect not to revise the data value, you may provide an explanation in the verification software of why the data value is not being revised.

[79 FR 63780, Oct. 24, 2014, as amended at 79 FR 73778, Dec. 11, 2014]

§ 98.6 Definitions.

All terms used in this part shall have the same meaning given in the Clean Air Act and in this section.

Absorbent circulation pump means a pump commonly powered by natural gas pressure that circulates the absorbent liquid between the absorbent regenerator and natural gas contactor.

Accuracy of a measurement at a specified level (e.g., one percent of full scale or one percent of the value measured) means that the mean of repeat measurements made by a device or technique are within 95 percent of the range bounded by the true value plus or minus the specified level.

Acid Rain Program means the program established under title IV of the Clean Air Act, and implemented under parts 72 through 78 of this chapter for the reduction of sulfur dioxide and nitrogen oxides emissions.

Administrator means the Administrator of the United States Environmental Protection Agency or the Administrator's authorized representative.

AGA means the American Gas Association

Agricultural by-products means those parts of arable crops that are not used for the primary purpose of producing food. Agricultural by-products include, but are not limited to, oat, corn and wheat straws, bagasse, peanut shells, rice and coconut husks, soybean hulls, palm kernel cake, cottonseed and sunflower seed cake, and pomace.

Air injected flare means a flare in which air is blown into the base of a flare stack to induce complete combustion of gas.

Alkali bypass means a duct between the feed end of the kiln and the preheater tower through which a portion of the kiln exit gas stream is withdrawn and quickly cooled by air or water to avoid excessive buildup of alkali, chloride and/or sulfur on the raw feed. This may also be referred to as the ''kiln exhaust gas bypass.''

Anaerobic digester means the system where wastes are collected and anaerobically digested in large containment vessels or covered lagoons. Anaerobic digesters stabilize waste by the microbial reduction of complex organic compounds to CO2 and CH4, which is captured and may be flared or used as fuel. Anaerobic digestion systems, include but are not limited to covered lagoon, complete mix, plug flow, and fixed film digesters.

Anaerobic lagoon, with respect to subpart JJ of this part, means a type of liquid storage system component that is designed and operated to stabilize wastes using anaerobic microbial processes. Anaerobic lagoons may be designed for combined stabilization and storage with varying lengths of retention time (up to a year or greater), depending on the climate region, volatile solids loading rate, and other operational factors.

Anode effect is a process upset condition of an aluminum electrolysis cell caused by too little alumina dissolved

in the electrolyte. The anode effect begins when the voltage rises rapidly and exceeds a threshold voltage, typically 8 volts.

Anode Effect Minutes per Cell Day (24 hours) are the total minutes during which an electrolysis cell voltage is above the threshold voltage, typically 8 volts.

ANSI means the American National Standards Institute.

API means the American Petroleum Institute.

ASABE means the American Society of Agricultural and Biological Engineers.

ASME means the American Society of Mechanical Engineers.

ASTM means the American Society of Testing and Materials.

Asphalt means a dark brown-to-black cement-like material obtained by petroleum processing and containing bitumens as the predominant component. It includes crude asphalt as well as the following finished products: cements, fluxes, the asphalt content of emulsions (exclusive of water), and petroleum distillates blended with asphalt to make cutback asphalts.

Aviation Gasoline means a complex mixture of volatile hydrocarbons, with or without additives, suitably blended to be used in aviation reciprocating engines. Specifications can be found in ASTM Specification D910–07a, Standard Specification for Aviation Gasolines (incorporated by reference, see §98.7).

B_0 means the maximum CH_4 producing capacity of a waste stream, kg CH_4/kg COD.

Basic oxygen furnace means any refractory-lined vessel in which high-purity oxygen is blown under pressure through a bath of molten iron, scrap metal, and fluxes to produce steel.

bbl means barrel.

Biodiesel means a mono-akyl ester derived from biomass and conforming to ASTM D6751–08, Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels.

Biogenic CO_2 means carbon dioxide emissions generated as the result of biomass combustion from combustion units for which emission calculations are required by an applicable part 98 subpart.

Biomass means non-fossilized and biodegradable organic material originating from plants, animals or microorganisms, including products, by-products, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material.

Blast furnace means a furnace that is located at an integrated iron and steel plant and is used for the production of molten iron from iron ore pellets and other iron bearing materials.

Blendstocks are petroleum products used for blending or compounding into finished motor gasoline. These include RBOB (reformulated blendstock for oxygenate blending) and CBOB (conventional blendstock for oxygenate blending), but exclude oxygenates, butane, and pentanes plus.

Blendstocks—Others are products used for blending or compounding into finished motor gasoline that are not defined elsewhere. Excludes Gasoline Treated as Blendstock (GTAB), Diesel Treated as Blendstock (DTAB), conventional blendstock for oxygenate blending (CBOB), reformulated blendstock for oxygenate blending (RBOB), oxygenates (e.g. fuel ethanol and methyl tertiary butyl ether), butane, and pentanes plus.

Blowdown mean the act of emptying or depressuring a vessel. This may also refer to the discarded material such as blowdown water from a boiler or cooling tower.

Blowdown vent stack emissions mean natural gas and/or CO_2 released due to maintenance and/or blowdown operations including compressor blowdown and emergency shut-down (ESD) system testing.

British Thermal Unit or Btu means the quantity of heat required to raise the temperature of one pound of water by one degree Fahrenheit at about 39.2 degrees Fahrenheit.

Bulk, with respect to industrial GHG suppliers and CO2 suppliers, means the transfer of a product inside containers, including but not limited to tanks, cylinders, drums, and pressure vessels.

Bulk natural gas liquid or NGL refers to mixtures of hydrocarbons that have been separated from natural gas as liquids through the process of absorption, condensation, adsorption, or other methods. Generally, such liquids consist of ethane, propane, butanes, and pentanes plus. Bulk NGL is sold to fractionators or to refineries and petrochemical plants where the fractionation takes place.

Butane, or n-Butane, is a paraffinic straight-chain hydrocarbon with molecular formula C_4H_{10}.

Butylene, or n-Butylene, is an olefinic straight-chain hydrocarbon with molecular formula C_4H_8.

By-product coke oven battery means a group of ovens connected by common walls, where coal undergoes destructive distillation under positive pressure to produce coke and coke oven gas from which by-products are recovered.

Calcination means the process of thermally treating minerals to decompose carbonates from ore.

Calculation methodology means a methodology prescribed under the section ''Calculating GHG Emissions'' in any subpart of part 98.

Calibrated bag means a flexible, nonelastic, anti-static bag of a calibrated volume that can be affixed to an emitting source such that the emissions inflate the bag to its calibrated volume.

Carbon dioxide equivalent or CO_2e means the number of metric tons of CO_2 emissions with the same global warming potential as one metric ton of another greenhouse gas, and is calculated using Equation A–1 of this subpart.

Carbon dioxide production well means any hole drilled in the earth for the primary purpose of extracting carbon dioxide from a geologic formation or group of formations which contain deposits of carbon dioxide.

Carbon dioxide production well facility means one or more carbon dioxide production wells that are located on one or more contiguous or adjacent properties, which are under the control of the same entity. Carbon dioxide production wells located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line, or pipeline, shall be considered part of the same CO_2 production well facility if they otherwise meet the definition.

Carbon dioxide stream means carbon dioxide that has been captured from an emission source (e.g. a power plant or other industrial facility) or extracted from a carbon dioxide production well plus incidental associated substances either derived from the source materials and the capture process or extracted with the carbon dioxide.

Carbon share means the percent of total mass that carbon represents in any product.

Carbonate means compounds containing the radical CO_3^{-2}. Upon calcination, the carbonate radical decomposes to evolve carbon dioxide (CO_2). Common carbonates consumed in the mineral industry include calcium carbonate ($CaCO_3$) or calcite; magnesium carbonate ($MgCO_3$) or magnesite; and calcium-magnesium carbonate ($CaMg(CO_3)_2$) or dolomite.

Carbonate-based mineral means any of the following minerals used in the manufacture of glass: Calcium carbonate ($CaCO_3$), calcium magnesium carbonate ($CaMg(CO_3)_2$), sodium carbonate (Na_2CO_3), barium carbonate ($BaCO_3$), potassium carbonate (K_2CO_3), lithium carbonate (Li_2CO_3), and strontium carbonate ($SrCO_3$).

Carbonate-based mineral mass fraction means the following: For limestone, the mass fraction of calcium carbonate ($CaCO_3$) in the limestone; for dolomite, the mass fraction of calcium magnesium carbonate ($CaMg(CO_3)_2$) in the dolomite; for soda ash, the mass fraction of sodium carbonate (Na_2CO_3) in the soda ash; for barium carbonate, the mass fraction of barium carbonate ($BaCO_3$) in the barium carbonate; for potassium carbonate, the mass fraction of potassium carbonate (K_2CO_3) in the potassium carbonate; for lithium carbonate, the mass fraction of lithium carbonate (Li_2CO_3); and for strontium carbonate, the mass fraction of strontium carbonate ($SrCO_3$).

Carbonate-based raw material means any of the following materials used in the manufacture of glass: Limestone, dolomite, soda ash, barium carbonate,

potassium carbonate, lithium carbonate, and strontium carbonate.

Carbonofluoridates means fluorinated GHGs that are composed of a -OCF(O) group (carbonyl group with a single-bonded oxygen atom and a fluorine atom) that is linked on the single-bonded oxygen to another hydrocarbon group in which one or more of the hydrogen atoms may be replaced by fluorine atoms.

Catalytic cracking unit means a refinery process unit in which petroleum derivatives are continuously charged and hydrocarbon molecules in the presence of a catalyst are fractured into smaller molecules, or react with a contact material suspended in a fluidized bed to improve feedstock quality for additional processing and the catalyst or contact material is continuously regenerated by burning off coke and other deposits. Catalytic cracking units include both fluidized bed systems, which are referred to as fluid catalytic cracking units (FCCU), and moving bed systems, which are also referred to as thermal catalytic cracking units. The unit includes the riser, reactor, regenerator, air blowers, spent catalyst or contact material stripper, catalyst or contact material recovery equipment, and regenerator equipment for controlling air pollutant emissions and for heat recovery.

CBOB-Summer (conventional blendstock for oxygenate blending) means a petroleum product which, when blended with a specified type and percentage of oxygenate, meets the definition of Conventional-Summer.

CBOB-Winter (conventional blendstock for oxygenate blending) means a petroleum product which, when blended with a specified type and percentage of oxygenate, meets the definition of Conventional-Winter.

Cement kiln dust means non-calcined to fully calcined dust produced in the kiln or pyroprocessing line. Cement kiln dust is a fine-grained, solid, highly alkaline material removed from the cement kiln exhaust gas by scrubbers (filtration baghouses and/or electrostatic precipitators).

Centrifugal compressor means any equipment that increases the pressure of a process natural gas or CO_2 by centrifugal action, employing rotating movement of the driven shaft.

Centrifugal compressor dry seal emissions mean natural gas or CO_2 released from a dry seal vent pipe and/or the seal face around the rotating shaft where it exits one or both ends of the compressor case.

Centrifugal compressor dry seals mean a series of rings around the compressor shaft where it exits the compressor case that operates mechanically under the opposing forces to prevent natural gas or CO_2 from escaping to the atmosphere.

Centrifugal compressor wet seal degassing vent emissions means emissions that occur when the high-pressure oil barriers for centrifugal compressors are depressurized to release absorbed natural gas or CO_2. High-pressure oil is used as a barrier against escaping gas in centrifugal compressor shafts. Very little gas escapes through the oil barrier, but under high pressure, considerably more gas is absorbed by the oil. The seal oil is purged of the absorbed gas (using heaters, flash tanks, and degassing techniques) and recirculated. The separated gas is commonly vented to the atmosphere.

Certified standards means calibration gases certified by the manufacturer of the calibration gases to be accurate to within 2 percent of the value on the label or calibration gases.

CH_4 means methane.

Chemical recovery combustion unit means a combustion device, such as a recovery furnace or fluidized-bed reactor where spent pulping liquor from sulfite or semi-chemical pulping processes is burned to recover pulping chemicals.

Chemical recovery furnace means an enclosed combustion device where concentrated spent liquor produced by the kraft or soda pulping process is burned to recover pulping chemicals and produce steam. Includes any recovery furnace that burns spent pulping liquor produced from both the kraft and soda pulping processes.

Chloride process means a production process where titanium dioxide is produced using calcined petroleum coke and chlorine as raw materials.

City gate means a location at which natural gas ownership or control passes

from one party to another, neither of which is the ultimate consumer. In this rule, in keeping with common practice, the term refers to a point or measuring station at which a local gas distribution utility receives gas from a natural gas pipeline company or transmission system. Meters at the city gate station measure the flow of natural gas into the local distribution company system and typically are used to measure local distribution company system sendout to customers.

CO_2 means carbon dioxide.

Coal means all solid fuels classified as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials Designation ASTM D388–05 Standard Classification of Coals by Rank (incorporated by reference, *see* § 98.7).

COD means the chemical oxygen demand as determined using methods specified pursuant to 40 CFR part 136.

Cogeneration unit means a unit that produces electrical energy and useful thermal energy for industrial, commercial, or heating or cooling purposes, through the sequential or simultaneous use of the original fuel energy.

Coke burn-off means the coke removed from the surface of a catalyst by combustion during catalyst regeneration. Coke burn-off also means the coke combusted in fluid coking unit burner.

Cokemaking means the production of coke from coal in either a by-product coke oven battery or a non-recovery coke oven battery.

Commercial applications means executing a commercial transaction subject to a contract. A commercial application includes transferring custody of a product from one facility to another if it otherwise meets the definition.

Company records means, in reference to the amount of fuel consumed by a stationary combustion unit (or by a group of such units), a complete record of the methods used, the measurements made, and the calculations performed to quantify fuel usage. Company records may include, but are not limited to, direct measurements of fuel consumption by gravimetric or volumetric means, tank drop measurements, and calculated values of fuel usage obtained by measuring auxiliary parameters such as steam generation or unit operating hours. Fuel billing records obtained from the fuel supplier qualify as company records.

Connector means to flanged, screwed, or other joined fittings used to connect pipe line segments, tubing, pipe components (such as elbows, reducers, ''T's'' or valves) or a pipe line and a piece of equipment or an instrument to a pipe, tube or piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this part.

Container glass means glass made of soda-lime recipe, clear or colored, which is pressed and/or blown into bottles, jars, ampoules, and other products listed in North American Industry Classification System 327213 (NAICS 327213).

Continuous bleed means a continuous flow of pneumatic supply natural gas to the process control device (*e.g.* level control, temperature control, pressure control) where the supply gas pressure is modulated by the process condition, and then flows to the valve controller where the signal is compared with the process set-point to adjust gas pressure in the valve actuator.

Continuous emission monitoring system or CEMS means the total equipment required to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes, a permanent record of gas concentrations, pollutant emission rates, or gas volumetric flow rates from stationary sources.

Continuous glass melting furnace means a glass melting furnace that operates continuously except during periods of maintenance, malfunction, control device installation, reconstruction, or rebuilding.

Conventional-Summer refers to finished gasoline formulated for use in motor vehicles, the composition and properties of which do not meet the requirements of the reformulated gasoline regulations promulgated by the U.S. Environmental Protection Agency under 40 CFR 80.40, but which meet summer RVP standards required under 40 CFR 80.27 or as specified by the state. NOTE: This category excludes

conventional gasoline for oxygenate blending (CBOB) as well as other blendstock.

Conventional-Winter refers to finished gasoline formulated for use in motor vehicles, the composition and properties of which do not meet the requirements of the reformulated gasoline regulations promulgated by the U.S. Environmental Protection Agency under 40 CFR 80.40 or the summer RVP standards required under 40 CFR 80.27 or as specified by the state. NOTE: This category excludes conventional blendstock for oxygenate blending (CBOB) as well as other blendstock.

Crude oil means a mixture of hydrocarbons that exists in liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. (1) Depending upon the characteristics of the crude stream, it may also include any of the following:

(i) Small amounts of hydrocarbons that exist in gaseous phase in natural underground reservoirs but are liquid at atmospheric conditions (temperature and pressure) after being recovered from oil well (casing-head) gas in lease separators and are subsequently commingled with the crude stream without being separately measured. Lease condensate recovered as a liquid from natural gas wells in lease or field separation facilities and later mixed into the crude stream is also included.

(ii) Small amounts of non-hydrocarbons, such as sulfur and various metals.

(iii) Drip gases, and liquid hydrocarbons produced from tar sands, oil sands, gilsonite, and oil shale.

(iv) Petroleum products that are received or produced at a refinery and subsequently injected into a crude supply or reservoir by the same refinery owner or operator.

(2) Liquids produced at natural gas processing plants are excluded. Crude oil is refined to produce a wide array of petroleum products, including heating oils; gasoline, diesel and jet fuels; lubricants; asphalt; ethane, propane, and butane; and many other products used for their energy or chemical content.

Daily spread means a manure management system component in which manure is routinely removed from a confinement facility and is applied to cropland or pasture within 24 hours of excretion.

Day means any consistently designated 24 hour period during which an emission unit is operated.

Decarburization vessel means any vessel used to further refine molten steel with the primary intent of reducing the carbon content of the steel, including but not limited to vessels used for argon-oxygen decarburization and vacuum oxygen decarburization.

Deep bedding systems for cattle swine means a manure management system in which, as manure accumulates, bedding is continually added to absorb moisture over a production cycle and possibly for as long as 6 to 12 months. This manure management system also is known as a bedded pack manure management system and may be combined with a dry lot or pasture.

Degasification system means the entirety of the equipment that is used to drain gas from underground coal mines. This includes all degasification wells and gob gas vent holes at the underground coal mine. Degasification systems include gob and premine surface drainage wells, gob and premine in-mine drainage wells, and in-mine gob and premine cross-measure borehole wells.

Degradable organic carbon (DOC) means the fraction of the total mass of a waste material that can be biologically degraded.

Dehydrator means a device in which a liquid absorbent (including desiccant, ethylene glycol, diethylene glycol, or triethylene glycol) directly contacts a natural gas stream to absorb water vapor.

Dehydrator vent emissions means natural gas and CO_2 released from a natural gas dehydrator system absorbent (typically glycol) reboiler or regenerator to the atmosphere or a flare, including stripping natural gas and motive natural gas used in absorbent circulation pumps.

Delayed coking unit means one or more refinery process units in which high molecular weight petroleum derivatives are thermally cracked and petroleum coke is produced in a series of

closed, batch system reactors. A *delayed coking unit* consists of the coke drums and ancillary equipment associated with a single fractionator.

De-methanizer means the natural gas processing unit that separates methane rich residue gas from the heavier hydrocarbons (*e.g.*, ethane, propane, butane, pentane-plus) in feed natural gas stream.

Density means the mass contained in a given unit volume (mass/volume).

Desiccant means a material used in solid-bed dehydrators to remove water from raw natural gas by adsorption or absorption. Desiccants include activated alumina, pelletized calcium chloride, lithium chloride and granular silica gel material. Wet natural gas is passed through a bed of the granular or pelletized solid adsorbent or absorbent in these dehydrators. As the wet gas contacts the surface of the particles of desiccant material, water is adsorbed on the surface or absorbed and dissolves the surface of these desiccant particles. Passing through the entire desiccant bed, almost all of the water is adsorbed onto or absorbed into the desiccant material, leaving the dry gas to exit the contactor.

Destruction means:

(1) With respect to landfills and manure management, the combustion of methane in any on-site or off-site combustion technology. Destroyed methane includes, but is not limited to, methane combusted by flaring, methane destroyed by thermal oxidation, methane combusted for use in on-site energy or heat production technologies, methane that is conveyed through pipelines (including natural gas pipelines) for off-site combustion, and methane that is collected for any other on-site or off-site use as a fuel.

(2) With respect to fluorinated GHGs, the expiration of a fluorinated GHG to the destruction efficiency actually achieved. Such destruction does not result in a commercially useful end product.

Destruction device, for the purposes of subparts II and TT of this part, means a flare, thermal oxidizer, boiler, turbine, internal combustion engine, or any other combustion unit used to destroy or oxidize methane contained in landfill gas or wastewater biogas.

Destruction efficiency means the efficiency with which a destruction device reduces the mass of a greenhouse gas fed into the device. Destruction efficiency, or flaring destruction efficiency, refers to the fraction of the gas that leaves the flare partially or fully oxidized. The destruction efficiency is expressed in Equation A–2 of this section:

$$DE = 1 - \frac{tGHG_{iOUT}}{tGHG_{iIN}} \quad \text{(Eq. A-2)}$$

where:

DE = Destruction Efficiency

$tGHG_{iIN}$ = The mass of GHG i fed into the destruction device

$tGHG_{iOUT}$ = The mass of GHG i exhausted from the destruction device

Diesel—Other is any distillate fuel oil not defined elsewhere, including Diesel Treated as Blendstock (DTAB).

DIPE (diisopropyl ether, $(CH_3)_2CHOCH(CH_3)_2$) is an ether as described in ''Oxygenates.''

Direct liquefaction means the conversion of coal directly into liquids, rather than passing through an intermediate gaseous state.

Direct reduction furnace means a high temperature furnace typically fired with natural gas to produce solid iron from iron ore or iron ore pellets and coke, coal, or other carbonaceous materials.

Distillate fuel oil means a classification for one of the petroleum fractions produced in conventional distillation operations and from crackers and hydrotreating process units. The generic term distillate fuel oil includes kerosene, kerosene-type jet fuel, diesel fuels (Diesel Fuels No. 1, No. 2, and No. 4), and fuel oils (Fuel Oils No. 1, No. 2, and No. 4).

Distillate Fuel No. 1 has a maximum distillation temperature of 550 °F at the 90 percent recovery point and a minimum flash point of 100 °F and includes fuels commonly known as Diesel Fuel No. 1 and Fuel Oil No. 1, but excludes kerosene. This fuel is further subdivided into categories of sulfur content: High Sulfur (greater than 500 ppm), Low Sulfur (less than or equal to 500 ppm and greater than 15 ppm), and Ultra Low Sulfur (less than or equal to 15 ppm).

Distillate Fuel No. 2 has a minimum and maximum distillation temperature of 540 °F and 640 °F at the 90 percent recovery point, respectively, and includes fuels commonly known as Diesel Fuel No. 2 and Fuel Oil No. 2. This fuel is further subdivided into categories of sulfur content: High Sulfur (greater than 500 ppm), Low Sulfur (less than or equal to 500 ppm and greater than 15 ppm), and Ultra Low Sulfur (less than or equal to 15 ppm).

Distillate Fuel No. 4 is a distillate fuel oil made by blending distillate fuel oil and residual fuel oil, with a minimum flash point of 131 °F.

DOC_f means the fraction of DOC that actually decomposes under the (presumably anaerobic) conditions within the landfill.

Dry lot means a manure management system component consisting of a paved or unpaved open confinement area without any significant vegetative cover where accumulating manure may be removed periodically.

Electric arc furnace (EAF) means a furnace that produces molten alloy metal and heats the charge materials with electric arcs from carbon electrodes.

Electric arc furnace steelmaking means the production of carbon, alloy, or specialty steels using an EAF. This definition excludes EAFs at steel foundries and EAFs used to produce nonferrous metals.

Electrothermic furnace means a furnace that heats the charged materials with electric arcs from carbon electrodes.

Emergency generator means a stationary combustion device, such as a reciprocating internal combustion engine or turbine that serves solely as a secondary source of mechanical or electrical power whenever the primary energy supply is disrupted or discontinued during power outages or natural disasters that are beyond the control of the owner or operator of a facility. An emergency generator operates only during emergency situations, for training of personnel under simulated emergency conditions, as part of emergency demand response procedures, or for standard performance testing procedures as required by law or by the generator manufacturer. A generator that serves as a back-up power source under conditions of load shedding, peak shaving, power interruptions pursuant to an interruptible power service agreement, or scheduled facility maintenance shall not be considered an emergency generator.

Emergency equipment means any auxiliary fossil fuel-powered equipment, such as a fire pump, that is used only in emergency situations.

ETBE (ethyl tertiary butyl ether, $(CH_3)_3COC_2H$) is an ether as described in ''Oxygenates.''

Ethane is a paraffinic hydrocarbon with molecular formula C_2H_6.

Ethanol is an anhydrous alcohol with molecular formula C_2H_5OH.

Ethylene is an olefinic hydrocarbon with molecular formula C_2H_4.

Ex refinery gate means the point at which a petroleum product leaves the refinery.

Experimental furnace means a glass melting furnace with the sole purpose of operating to evaluate glass melting processes, technologies, or glass products. An experimental furnace does not produce glass that is sold (except for further research and development purposes) or that is used as a raw material for non-experimental furnaces.

Export means to transport a product from inside the United States to persons outside the United States, excluding any such transport on behalf of the United States military including foreign military sales under the Arms Export Control Act.

Exporter means any person, company or organization of record that transfers for sale or for other benefit, domestic products from the United States to another country or to an affiliate in another country, excluding any such transfers on behalf of the United States

military or military purposes including foreign military sales under the Arms Export Control Act. An exporter is not the entity merely transporting the domestic products, rather an exporter is the entity deriving the principal benefit from the transaction.

Facility means any physical property, plant, building, structure, source, or stationary equipment located on one or more contiguous or adjacent properties in actual physical contact or separated solely by a public roadway or other public right-of-way and under common ownership or common control, that emits or may emit any greenhouse gas. Operators of military installations may classify such installations as more than a single facility based on distinct and independent functional groupings within contiguous military properties.

Feed means the prepared and mixed materials, which include but are not limited to materials such as limestone, clay, shale, sand, iron ore, mill scale, cement kiln dust and flyash, that are fed to the kiln. Feed does not include the fuels used in the kiln to produce heat to form the clinker product.

Feedstock means raw material inputs to a process that are transformed by reaction, oxidation, or other chemical or physical methods into products and by-products. Supplemental fuel burned to provide heat or thermal energy is not a feedstock.

Fischer-Tropsch process means a catalyzed chemical reaction in which synthesis gas, a mixture of carbon monoxide and hydrogen, is converted into liquid hydrocarbons of various forms.

Flare means a combustion device, whether at ground level or elevated, that uses an open flame to burn combustible gases with combustion air provided by uncontrolled ambient air around the flame.

Flat glass means glass made of soda-lime recipe and produced into continuous flat sheets and other products listed in NAICS 327211.

Flowmeter means a device that measures the mass or volumetric rate of flow of a gas, liquid, or solid moving through an open or closed conduit (e.g. flowmeters include, but are not limited to, rotameters, turbine meters, coriolis meters, orifice meters, ultra-sonic flowmeters, and vortex flowmeters).

Fluid coking unit means one or more refinery process units in which high molecular weight petroleum derivatives are thermally cracked and petroleum coke is continuously produced in a fluidized bed system. The fluid coking unit includes equipment for controlling air pollutant emissions and for heat recovery on the fluid coking burner exhaust vent. There are two basic types of fluid coking units: A traditional fluid coking unit in which only a small portion of the coke produced in the unit is burned to fuel the unit and the fluid coking burner exhaust vent is directed to the atmosphere (after processing in a CO boiler or other air pollutant control equipment) and a flexicoking unit in which an auxiliary burner is used to partially combust a significant portion of the produced petroleum coke to generate a low value fuel gas that is used as fuel in other combustion sources at the refinery.

Fluorinated acetates means fluorinated GHGs that are composed of an acetate group with one or more valence locations on the methyl group of the acetate occupied by fluorine atoms (*e.g.*, $CFH_2C(O)O$-, $CF_2HC(O)O$-) and, linked to the single-bonded oxygen of the acetate group, another hydrocarbon group in which one or more of the hydrogen atoms may be replaced by fluorine atoms.

Fluorinated alcohols other than fluorotelomer alcohols means fluorinated GHGs that include an alcohol functional group (-OH) and that do not meet the definition of fluorotelomer alcohols.

Fluorinated formates means fluorinated GHGs that are composed of a formate group -OCH(O) (carbonyl group with a single-bonded oxygen, and with a hydrogen atom) that is linked on the single-bonded oxygen atom to a hydrocarbon group in which one or more of the hydrogen atoms in the hydrocarbon group is replaced by fluorine atoms; the typical formula for fluorinated formates is $F_nROCH(O)$.

Fluorinated greenhouse gas means sulfur hexafluoride (SF_6), nitrogen trifluoride (NF_3), and any fluorocarbon except for controlled substances as defined at 40 CFR part 82, subpart A and substances with vapor pressures of less than 1 mm of Hg absolute at 25 degrees

C. With these exceptions, ''fluorinated GHG'' includes but is not limited to any hydrofluorocarbon, any perfluorocarbon, any fully fluorinated linear, branched or cyclic alkane, ether, tertiary amine or aminoether, any perfluoropolyether, and any hydrofluoropolyether.

Fluorinated greenhouse gas (GHG) group means one of the following sets of fluorinated GHGs: Fully fluorinated GHGs; saturated hydrofluorocarbons with 2 or fewer carbon-hydrogen bonds; saturated hydrofluorocarbons with 3 or more carbon-hydrogen bonds; saturated hydrofluoroethers and hydrochlorofluoroethers with 1 carbon-hydrogen bond; saturated hydrofluoroethers and hydrochlorofluoroethers with 2 carbon-hydrogen bonds; saturated hydrofluoroethers and hydrochlorofluoroethers with 3 or more carbon-hydrogen bonds; fluorinated formates; fluorinated acetates, carbonofluoridates, and fluorinated alcohols other than fluorotelomer alcohols; unsaturated PFCs, unsaturated HFCs, unsaturated HCFCs, unsaturated halogenated ethers, unsaturated halogenated esters, fluorinated aldehydes, and fluorinated ketones; fluorotelomer alcohols; fluorinated GHGs with carbon-iodine bonds; or other fluorinated GHGs.

Fluorotelomer alcohols means fluorinated GHGs with the chemical formula $C_nF_{2n+1}CH_2CH_2OH$.

Fossil fuel means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material, for purpose of creating useful heat.

Fractionators means plants that produce fractionated natural gas liquids (NGLs) extracted from produced natural gas and separate the NGLs individual component products: ethane, propane, butanes and pentane-plus (C5+). Plants that only process natural gas but do not fractionate NGLs further into component products are not considered fractionators. Some fractionators do not process production gas, but instead fractionate bulk NGLs received from natural gas processors. Some fractionators both process natural gas and fractionate bulk NGLs received from other plants.

Fuel means solid, liquid or gaseous combustible material.

Fuel gas means gas generated at a petroleum refinery or petrochemical plant and that is combusted separately or in any combination with any type of gas.

Fuel gas system means a system of compressors, piping, knock-out pots, mix drums, and, if necessary, units used to remove sulfur contaminants from the fuel gas (e.g., amine scrubbers) that collects fuel gas from one or more sources for treatment, as necessary, and transport to a stationary combustion unit. A fuel gas system may have an overpressure vent to a flare but the primary purpose for a fuel gas system is to provide fuel to the various combustion units at the refinery or petrochemical plant.

Fully fluorinated GHGs means fluorinated GHGs that contain only single bonds and in which all available valence locations are filled by fluorine atoms. This includes but is not limited to: Saturated perfluorocarbons; SF_6; NF_3; SF_5CF_3; fully fluorinated linear, branched, and cyclic alkanes; fully fluorinated ethers; fully fluorinated tertiary amines; fully fluorinated aminoethers; and perfluoropolyethers.

Furnace slag means a by-product formed in metal melting furnaces when slagging agents, reducing agents, and/or fluxes (*e.g.*, coke ash, limestone, silicates) are added to remove impurities from the molten metal.

Gas collection system or landfill gas collection system means a system of pipes used to collect landfill gas from different locations in the landfill by means of a fan or similar mechanical draft equipment to a single location for treatment (thermal destruction) or use. Landfill gas collection systems may also include knock-out or separator drums and/or a compressor. A single landfill may have multiple gas collection systems. Landfill gas collection systems do not include ''passive'' systems, whereby landfill gas flows naturally to the surface of the landfill where an opening or pipe (vent) is installed to allow for natural gas flow.

Gas conditions mean the actual temperature, volume, and pressure of a gas sample.

Gas-fired unit means a stationary combustion unit that derives more than 50 percent of its annual heat input from the combustion of gaseous fuels, and the remainder of its annual heat input from the combustion of fuel oil or other liquid fuels.

Gas monitor means an instrument that continuously measures the concentration of a particular gaseous species in the effluent of a stationary source.

Gas to oil ratio (GOR) means the ratio of the volume of gas at standard temperature and pressure that is produced from a volume of oil when depressurized to standard temperature and pressure.

Gaseous fuel means a material that is in the gaseous state at standard atmospheric temperature and pressure conditions and that is combusted to produce heat and/or energy.

Gasification means the conversion of a solid or liquid raw material into a gas.

Gasoline—Other is any gasoline that is not defined elsewhere, including GTAB (gasoline treated as blendstock).

Glass melting furnace means a unit comprising a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass.

Glass produced means the weight of glass exiting a glass melting furnace.

Global warming potential or GWP means the ratio of the time-integrated radiative forcing from the instantaneous release of one kilogram of a trace substance relative to that of one kilogram of a reference gas (*i.e.*, CO_2). GWPs for each greenhouse gas are provided in Table A–1 of this subpart. For purposes of the calculations in this part, if the GHG has a chemical-specific GWP listed in Table A–1, use that GWP. Otherwise, use the default GWP provided in Table A–1 for the fluorinated GHG group of which the GHG is a member.

GPA means the Gas Processors Association.

Greenhouse gas or GHG means carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF6), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and other fluorinated greenhouse gases as defined in this section.

GTBA (gasoline-grade tertiary butyl alcohol, $(CH_3)_3COH$), or t-butanol, is an alcohol as described in ''Oxygenates.''

Heavy Gas Oils are petroleum distillates with an approximate boiling range from 651 °F to 1,000 °F.

Heel means the amount of gas that remains in a shipping container after it is discharged or off-loaded (that is no more than ten percent of the volume of the container).

High-bleed pneumatic devices are automated, continuous bleed flow control devices powered by pressurized natural gas and used for maintaining a process condition such as liquid level, pressure, delta-pressure and temperature. Part of the gas power stream that is regulated by the process condition flows to a valve actuator controller where it vents continuously (bleeds) to the atmosphere at a rate in excess of 6 standard cubic feet per hour.

High heat value or HHV means the high or gross heat content of the fuel with the heat of vaporization included. The water is assumed to be in a liquid state.

Hydrofluorocarbons or HFCs means a class of GHGs consisting of hydrogen, fluorine, and carbon.

Import means, to land on, bring into, or introduce into, any place subject to the jurisdiction of the United States whether or not such landing, bringing, or introduction constitutes an importation within the meaning of the customs laws of the United States, with the following exemptions:

(1) Off-loading used or excess fluorinated GHGs or nitrous oxide of U.S. origin from a ship during servicing.

(2) Bringing fluorinated GHGs or nitrous oxide into the U.S. from Mexico where the fluorinated GHGs or nitrous oxide had been admitted into Mexico in bond and were of U.S. origin.

(3) Bringing fluorinated GHGs or nitrous oxide into the U.S. when transported in a consignment of personal or household effects or in a similar noncommercial situation normally exempted from U.S. Customs attention.

(4) Bringing fluorinated GHGs or nitrous into U.S. jurisdiction exclusively for U. S. military purposes.

Importer means any person, company, or organization of record that for any reason brings a product into the United States from a foreign country, excluding introduction into U.S. jurisdiction exclusively for United States military purposes. An importer is the person, company, or organization primarily liable for the payment of any duties on the merchandise or an authorized agent acting on their behalf. The term includes, as appropriate:

(1) The consignee.

(2) The importer of record.

(3) The actual owner.

(4) The transferee, if the right to draw merchandise in a bonded warehouse has been transferred.

Indurating furnace means a furnace where unfired taconite pellets, called green balls, are hardened at high temperatures to produce fired pellets for use in a blast furnace. Types of indurating furnaces include straight gate and grate kiln furnaces.

Industrial greenhouse gases means nitrous oxide or any fluorinated greenhouse gas.

In-line kiln/raw mill means a system in a portland cement production process where a dry kiln system is integrated with the raw mill so that all or a portion of the kiln exhaust gases are used to perform the drying operation of the raw mill, with no auxiliary heat source used. In this system the kiln is capable of operating without the raw mill operating, but the raw mill cannot operate without the kiln gases, and consequently, the raw mill does not generate a separate exhaust gas stream.

Intermittent bleed pneumatic devices mean automated flow control devices powered by pressurized natural gas and used for automatically maintaining a process condition such as liquid level, pressure, delta-pressure and temperature. These are snap-acting or throttling devices that discharge all or a portion of the full volume of the actuator intermittently when control action is necessary, but does not bleed continuously.

Isobutane is a paraffinic branch chain hydrocarbon with molecular formula C_4H_{10}.

Isobutylene is an olefinic branch chain hydrocarbon with molecular formula C_4H_8.

Kerosene is a light petroleum distillate with a maximum distillation temperature of 400 °F at the 10-percent recovery point, a final maximum boiling point of 572 °F, a minimum flash point of 100 °F, and a maximum freezing point of −22 °F. Included are No. 1–K and No. 2–K, distinguished by maximum sulfur content (0.04 and 0.30 percent of total mass, respectively), as well as all other grades of kerosene called range or stove oil. Excluded is kerosene-type jet fuel (see definition herein).

Kerosene-type jet fuel means a kerosene-based product used in commercial and military turbojet and turboprop aircraft. The product has a maximum distillation temperature of 400 °F at the 10 percent recovery point and a final maximum boiling point of 572 °F. Included are Jet A, Jet A–1, JP–5, and JP–8.

Kiln means an oven, furnace, or heated enclosure used for thermally processing a mineral or mineral-based substance.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal and that is not a land application unit, surface impoundment, injection well, or waste pile as those terms are defined under 40 CFR 257.2.

Landfill gas means gas produced as a result of anaerobic decomposition of waste materials in the landfill. Landfill gas generally contains 40 to 60 percent methane on a dry basis, typically less than 1 percent non-methane organic chemicals, and the remainder being carbon dioxide.

Liberated means released from coal and surrounding rock strata during the mining process. This includes both methane emitted from the ventilation system and methane drained from degasification systems.

Lime is the generic term for a variety of chemical compounds that are produced by the calcination of limestone or dolomite. These products include but are not limited to calcium oxide, high-calcium quicklime, calcium hydroxide, hydrated lime, dolomitic quicklime, and dolomitic hydrate.

Liquid/Slurry means a manure management component in which manure is stored as excreted or with some minimal addition of water to facilitate handling and is stored in either tanks or earthen ponds, usually for periods less than one year.

Low-bleed pneumatic devices mean automated flow control devices powered by pressurized natural gas and used for maintaining a process condition such as liquid level, pressure, delta-pressure and temperature. Part of the gas power stream that is regulated by the process condition flows to a valve actuator controller where it vents continuously (bleeds) to the atmosphere at a rate equal to or less than six standard cubic feet per hour.

Lubricants include all grades of lubricating oils, from spindle oil to cylinder oil to those used in greases. Petroleum lubricants may be produced from distillates or residues.

Makeup chemicals means carbonate chemicals (e.g., sodium and calcium carbonates) that are added to the chemical recovery areas of chemical pulp mills to replace chemicals lost in the process.

Manure composting means the biological oxidation of a solid waste including manure usually with bedding or another organic carbon source typically at thermophilic temperatures produced by microbial heat production. There are four types of composting employed for manure management: Static, in vessel, intensive windrow and passive windrow. Static composting typically occurs in an enclosed channel, with forced aeration and continuous mixing. In vessel composting occurs in piles with forced aeration but no mixing. Intensive windrow composting occurs in windrows with regular turning for mixing and aeration. Passive windrow composting occurs in windrows with infrequent turning for mixing and aeration.

Maximum rated heat input capacity means the hourly heat input to a unit (in mmBtu/hr), when it combusts the maximum amount of fuel per hour that it is capable of combusting on a steady state basis, as of the initial installation of the unit, as specified by the manufacturer.

Maximum rated input capacity means the maximum charging rate of a municipal waste combustor unit expressed in tons per day of municipal solid waste combusted, calculated according to the procedures under 40 CFR 60.58b(j).

Mcf means thousand cubic feet.

Methane conversion factor means the extent to which the CH_4 producing capacity (B_o) is realized in each type of treatment and discharge pathway and system. Thus, it is an indication of the degree to which the system is anaerobic.

Methane correction factor means an adjustment factor applied to the methane generation rate to account for portions of the landfill that remain aerobic. The methane correction factor can be considered the fraction of the total landfill waste volume that is ultimately disposed of in an anaerobic state. Managed landfills that have soil or other cover materials have a methane correction factor of 1.

Methanol (CH_3OH) is an alcohol as described in ''Oxygenates.''

Midgrade gasoline has an octane rating greater than or equal to 88 and less than or equal to 90. This definition applies to the midgrade categories of Conventional-Summer, Conventional-Winter, Reformulated-Summer, and Reformulated-Winter. For midgrade categories of RBOB-Summer, RBOB-Winter, CBOB-Summer, and CBOB-Winter, this definition refers to the expected octane rating of the finished gasoline after oxygenate has been added to the RBOB or CBOB.

Miscellaneous products include all refined petroleum products not defined elsewhere. It includes, but is not limited to, naphtha-type jet fuel (Jet B and JP–4), petrolatum lube refining byproducts (aromatic extracts and tars), absorption oils, ram-jet fuel, petroleum rocket fuels, synthetic natural gas feedstocks, waste feedstocks, and specialty oils. It excludes organic waste sludges, tank bottoms, spent catalysts, and sulfuric acid.

MMBtu means million British thermal units.

Motor gasoline (finished) means a complex mixture of volatile hydrocarbons, with or without additives, suitably

blended to be used in spark ignition engines. Motor gasoline includes conventional gasoline, reformulated gasoline, and all types of oxygenated gasoline. Gasoline also has seasonal variations in an effort to control ozone levels. This is achieved by lowering the Reid Vapor Pressure (RVP) of gasoline during the summer driving season. Depending on the region of the country the RVP is lowered to below 9.0 psi or 7.8 psi. The RVP may be further lowered by state regulations.

Mscf means thousand standard cubic feet.

MTBE (methyl tertiary butyl ether, $(CH_3)_3COCH_3$) is an ether as described in ''Oxygenates.''

Municipal solid waste landfill or MSW landfill means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. An MSW landfill may also receive other types of RCRA Subtitle D wastes (40 CFR 257.2) such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of an MSW landfill may be separated by access roads, public roadways, or other public right-of-ways. An MSW landfill may be publicly or privately owned.

Municipal solid waste or MSW means solid phase household, commercial/retail, and/or institutional waste. Household waste includes material discarded by single and multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, non-manufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes material discarded by schools, nonmedical waste discarded by hospitals, material discarded by non-manufacturing activities at prisons and government facilities, and material discarded by other similar establishments or facilities. Household, commercial/retail, and institutional wastes include yard waste, refuse-derived fuel, and motor vehicle maintenance materials. Insofar as there is separate collection, processing and disposal of industrial source waste streams consisting of used oil, wood pallets, construction, renovation, and demolition wastes (which includes, but is not limited to, railroad ties and telephone poles), paper, clean wood, plastics, industrial process or manufacturing wastes, medical waste, motor vehicle parts or vehicle fluff, or used tires that do not contain hazardous waste identified or listed under 42 U.S.C. §6921, such wastes are not municipal solid waste. However, such wastes qualify as municipal solid waste where they are collected with other municipal solid waste or are otherwise combined with other municipal solid waste for processing and/or disposal.

Municipal wastewater treatment plant means a series of treatment processes used to remove contaminants and pollutants from domestic, business, and industrial wastewater collected in city sewers and transported to a centralized wastewater treatment system such as a publicly owned treatment works (POTW).

N_2O means nitrous oxide.

Naphthas (<401 °F) is a generic term applied to a petroleum fraction with an approximate boiling range between 122 °F and 400 °F. The naphtha fraction of crude oil is the raw material for gasoline and is composed largely of paraffinic hydrocarbons.

Natural gas means a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane. Natural gas may be field quality or pipeline quality.

Natural gas driven pneumatic pump means a pump that uses pressurized natural gas to move a piston or diaphragm, which pumps liquids on the opposite side of the piston or diaphragm.

Natural gas liquids (NGLs) means those hydrocarbons in natural gas that are separated from the gas as liquids through the process of absorption, condensation, adsorption, or other methods. Generally, such liquids consist of ethane, propane, butanes, and pentanes plus. Bulk NGLs refers to mixtures of NGLs that are sold or delivered as undifferentiated product from natural gas processing plants.

Natural gasoline means a mixture of liquid hydrocarbons (mostly pentanes and heavier hydrocarbons) extracted from natural gas. It includes isopentane.

NIST means the United States National Institute of Standards and Technology.

Nitric acid production line means a series of reactors and absorbers used to produce nitric acid.

Nitrogen excreted is the nitrogen that is excreted by livestock in manure and urine.

Non-crude feedstocks means any petroleum product or natural gas liquid that enters the refinery to be further refined or otherwise used on site.

Non-recovery coke oven battery means a group of ovens connected by common walls and operated as a unit, where coal undergoes destructive distillation under negative pressure to produce coke, and which is designed for the combustion of the coke oven gas from which by-products are not recovered.

North American Industry Classification System (NAICS) code(s) means the six-digit code(s) that represents the product(s)/activity(s)/service(s) at a facility or supplier as listed in the FEDERAL REGISTER and defined in ''North American Industrial Classification System Manual 2007,'' available from the U.S. Department of Commerce, National Technical Information Service, Alexandria, VA 22312, phone (703) 605–6000 or (800) 553–6847. *http://www.census.gov/eos/www/naics/*.

Oil-fired unit means a stationary combustion unit that derives more than 50 percent of its annual heat input from the combustion of fuel oil, and the remainder of its annual heat input from the combustion of natural gas or other gaseous fuels.

Open-ended valve or lines (OELs) means any valve, except pressure relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.

Operating hours means the duration of time in which a process or process unit is utilized; this excludes shutdown, maintenance, and standby.

Operational change means, for purposes of § 98.3(b), a change in the type of feedstock or fuel used, a change in operating hours, or a change in process production rate.

Operator means any person who operates or supervises a facility or supplier.

Other fluorinated GHGs means fluorinated GHGs that are none of the following: Fully fluorinated GHGs; saturated hydrofluorocarbons with 2 or fewer carbon-hydrogen bonds; saturated hydrofluorocarbons with 3 or more carbon-hydrogen bonds; saturated hydrofluoroethers and hydrochlorofluoroethers with 1 carbon-hydrogen bond; saturated hydrofluoroethers and hydrochlorofluoroethers with 2 carbon-hydrogen bonds; saturated hydrofluoroethers and hydrochlorofluoroethers with 3 or more carbon-hydrogen bonds; fluorinated formates; fluorinated acetates, carbonofluoridates, and fluorinated alcohols other than fluorotelomer alcohols; unsaturated PFCs, unsaturated HFCs, unsaturated HCFCs, unsaturated halogenated ethers, unsaturated halogenated esters, fluorinated aldehydes, and fluorinated ketones; fluorotelomer alcohols; or fluorinated GHGs with carbon-iodine bonds.

Other oils (>401 °F) are oils with a boiling range equal to or greater than 401 °F that are generally intended for use as a petrochemical feedstock and are not defined elsewhere.

Outer Continental Shelf means all submerged lands lying seaward and outside of the area of lands beneath navigable waters as defined in 43 U.S.C. 1331, and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.

Owner means any person who has legal or equitable title to, has a leasehold interest in, or control of a facility or supplier, except a person whose legal or equitable title to or leasehold interest in the facility or supplier arises solely because the person is a limited partner in a partnership that has legal or equitable title to, has a leasehold interest in, or control of the facility or supplier shall not be considered an ''owner'' of the facility or supplier.

Oxygenates means substances which, when added to gasoline, increase the oxygen content of the gasoline. Common oxygenates are ethanol, methyl

tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), diisopropyl ether (DIPE), and methanol.

Pasture/Range/Paddock means the manure from pasture and range grazing animals is allowed to lie as deposited, and is not managed.

Pentanes plus, or C5+, is a mixture of hydrocarbons that is a liquid at ambient temperature and pressure, and consists mostly of pentanes (five carbon chain) and higher carbon number hydrocarbons. Pentanes plus includes, but is not limited to, normal pentane, isopentane, hexanes-plus (natural gasoline), and plant condensate.

Perfluorocarbons or PFCs means a class of greenhouse gases consisting on the molecular level of carbon and fluorine.

Petrochemical means methanol, acrylonitrile, ethylene, ethylene oxide, ethylene dichloride, and any form of carbon black.

Petrochemical feedstocks means feedstocks derived from petroleum for the manufacture of chemicals, synthetic rubber, and a variety of plastics. This category is usually divided into naphthas less than 401 °F and other oils greater than 401 °F.

Petroleum means oil removed from the earth and the oil derived from tar sands and shale.

Petroleum coke means a black solid residue, obtained mainly by cracking and carbonizing of petroleum derived feedstocks, vacuum bottoms, tar and pitches in processes such as delayed coking or fluid coking. It consists mainly of carbon (90 to 95 percent), has low ash content, and may be used as a feedstock in coke ovens. This product is also known as marketable coke or catalyst coke.

Petroleum product means all refined and semi-refined products that are produced at a refinery by processing crude oil and other petroleum-based feedstocks, including petroleum products derived from co-processing biomass and petroleum feedstock together, but not including plastics or plastic products. Petroleum products may be combusted for energy use, or they may be used either for non-energy processes or as non-energy products. The definition of petroleum product for importers and exporters excludes waxes.

Physical address, with respect to a United States parent company as defined in this section, means the street address, city, state and zip code of that company's physical location.

Pit storage below animal confinement (deep pits) means the collection and storage of manure typically below a slatted floor in an enclosed animal confinement facility. This usually occurs with little or no added water for periods less than one year.

Plant code means either of the following:

(1) The Plant ID code assigned by the Department of Energy's Energy Information Administration. The Energy Information Administration Plant ID code is also referred to as the ''ORIS code'', ''ORISPL code'', ''Facility ID'', or ''Facility code'', among other names.

(2) If a Plant ID code has not been assigned by the Department of Energy's Energy Information Administration, then plant code means a code beginning with ''88'' assigned by the EPA's Clean Air Markets Division for electronic reporting.

Portable means designed and capable of being carried or moved from one location to another. Indications of portability include but are not limited to wheels, skids, carrying handles, dolly, trailer, or platform. Equipment is not portable if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The equipment or a replacement resides at the same location for more than 12 consecutive months.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least two years, and operates at that facility for at least three months each year.

(4) The equipment is moved from one location to another in an attempt to circumvent the portable residence time requirements of this definition.

Poultry manure with litter means a manure management system component that is similar to cattle and swine

deep bedding except usually not combined with a dry lot or pasture. The system is typically used for poultry breeder flocks and for the production of meat type chickens (broiler) and other fowl.

Poultry manure without litter means a manure management system component that may manage manure in a liquid form, similar to open pits in enclosed animal confinement facilities. These systems may alternatively be designed and operated to dry manure as it accumulates. The latter is known as a high-rise manure management system and is a form of passive windrow manure composting when designed and operated properly.

Precision of a measurement at a specified level (e.g., one percent of full scale or one percent of the value measured) means that 95 percent of repeat measurements made by a device or technique are within the range bounded by the mean of the measurements plus or minus the specified level.

Premium grade gasoline is gasoline having an antiknock index, i.e., octane rating, greater than 90. This definition applies to the premium grade categories of Conventional-Summer, Conventional-Winter, Reformulated-Summer, and Reformulated-Winter. For premium grade categories of RBOB-Summer, RBOB-Winter, CBOB-Summer, and CBOB-Winter, this definition refers to the expected octane rating of the finished gasoline after oxygenate has been added to the RBOB or CBOB.

Pressed and blown glass means glass which is pressed, blown, or both, into products such as light bulbs, glass fiber, technical glass, and other products listed in NAICS 327212.

Pressure relief device or pressure relief valve or pressure safety valve means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is but not limited to a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 psig or by a vacuum are not pressure relief devices.

Primary fuel means the fuel that provides the greatest percentage of the annual heat input to a stationary fuel combustion unit.

Process emissions means the emissions from industrial processes (e.g., cement production, ammonia production) involving chemical or physical transformations other than fuel combustion. For example, the calcination of carbonates in a kiln during cement production or the oxidation of methane in an ammonia process results in the release of process CO_2 emissions to the atmosphere. Emissions from fuel combustion to provide process heat are not part of process emissions, whether the combustion is internal or external to the process equipment.

Process unit means the equipment assembled and connected by pipes and ducts to process raw materials and to manufacture either a final product or an intermediate used in the onsite production of other products. The process unit also includes the purification of recovered byproducts.

Process vent means means a gas stream that: Is discharged through a conveyance to the atmosphere either directly or after passing through a control device; originates from a unit operation, including but not limited to reactors (including reformers, crackers, and furnaces, and separation equipment for products and recovered byproducts); and contains or has the potential to contain GHG that is generated in the process. Process vent does not include safety device discharges, equipment leaks, gas streams routed to a fuel gas system or to a flare, discharges from storage tanks.

Propane is a paraffinic hydrocarbon with molecular formula C_3H_8.

Propylene is an olefinic hydrocarbon with molecular formula C_3H_6.

Pulp mill lime kiln means the combustion units (e.g., rotary lime kiln or fluidized bed calciner) used at a kraft or soda pulp mill to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.

Pushing means the process of removing the coke from the coke oven at the end of the coking cycle. Pushing begins when coke first begins to fall from the oven into the quench car and ends when the quench car enters the quench tower.

Raw mill means a ball and tube mill, vertical roller mill or other size reduction equipment, that is not part of an in-line kiln/raw mill, used to grind feed to the appropriate size. Moisture may be added or removed from the feed during the grinding operation. If the raw mill is used to remove moisture from feed materials, it is also, by definition, a raw material dryer. The raw mill also includes the air separator associated with the raw mill.

RBOB-Summer (reformulated blendstock for oxygenate blending) means a petroleum product which, when blended with a specified type and percentage of oxygenate, meets the definition of Reformulated-Summer.

RBOB-Winter (reformulated blendstock for oxygenate blending) means a petroleum product which, when blended with a specified type and percentage of oxygenate, meets the definition of Reformulated-Winter.

Reciprocating compressor means a piece of equipment that increases the pressure of a process natural gas or CO_2 by positive displacement, employing linear movement of a shaft driving a piston in a cylinder.

Reciprocating compressor rod packing means a series of flexible rings in machined metal cups that fit around the reciprocating compressor piston rod to create a seal limiting the amount of compressed natural gas or CO_2 that escapes to the atmosphere.

Re-condenser means heat exchangers that cool compressed boil-off gas to a temperature that will condense natural gas to a liquid.

Reformulated-Summer refers to finished gasoline formulated for use in motor vehicles, the composition and properties of which meet the requirements of the reformulated gasoline regulations promulgated by the U.S. Environmental Protection Agency under 40 CFR 80.40 and 40 CFR 80.41, and summer RVP standards required under 40 CFR 80.27 or as specified by the state. Reformulated gasoline excludes Reformulated Blendstock for Oxygenate Blending (RBOB) as well as other blendstock.

Reformulated-Winter refers to finished gasoline formulated for use in motor vehicles, the composition and properties of which meet the requirements of the reformulated gasoline regulations promulgated by the U.S. Environmental Protection Agency under 40 CFR 80.40 and 40 CFR 80.41, but which do not meet summer RVP standards required under 40 CFR 80.27 or as specified by the state. NOTE: This category includes Oxygenated Fuels Program Reformulated Gasoline (OPRG). Reformulated gasoline excludes Reformulated Blendstock for Oxygenate Blending (RBOB) as well as other blendstock.

Regular grade gasoline is gasoline having an antiknock index, i.e., octane rating, greater than or equal to 85 and less than 88. This definition applies to the regular grade categories of Conventional-Summer, Conventional-Winter, Reformulated-Summer, and Reformulated-Winter. For regular grade categories of RBOB-Summer, RBOB-Winter, CBOB-Summer, and CBOB-Winter, this definition refers to the expected octane rating of the finished gasoline after oxygenate has been added to the RBOB or CBOB.

Rendered animal fat, or tallow, means fats extracted from animals which are generally used as a feedstock in making biodiesel.

Research and development means those activities conducted in process units or at laboratory bench-scale settings whose purpose is to conduct research and development for new processes, technologies, or products and whose purpose is not for the manufacture of products for commercial sale, except in a *de minimis* manner.

Residual Fuel Oil No. 5 (Navy Special) is a classification for the heavier fuel oil generally used in steam powered vessels in government service and inshore power plants. It has a minimum flash point of 131 °F.

Residual Fuel Oil No. 6 (a.k.a. Bunker C) is a classification for the heavier fuel oil generally used for the production of electric power, space heating, vessel bunkering and various industrial purposes. It has a minimum flash point of 140 °F.

Residuum is residue from crude oil after distilling off all but the heaviest components, with a boiling range greater than 1,000 °F.

Road oil is any heavy petroleum oil, including residual asphaltic oil used as a dust palliative and surface treatment

on roads and highways. It is generally produced in six grades, from 0, the most liquid, to 5, the most viscous.

Rotary lime kiln means a unit with an inclined rotating drum that is used to produce a lime product from limestone by calcination.

Safety device means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. A safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes and practices, or other requirements for the safe handling of flammable, combustible, explosive, reactive, or hazardous materials.

Sales oil means produced crude oil or condensate measured at the production lease automatic custody transfer (LACT) meter or custody transfer tank gauge.

Saturated hydrochlorofluoroethers (HCFEs) means fluorinated GHGs in which two hydrocarbon groups are linked by an oxygen atom; in which two or more, but not all, of the hydrogen atoms in the hydrocarbon groups have been replaced by fluorine atoms and chlorine atoms; and which contain only single bonds.

Saturated hydrofluorocarbons (HFCs) means fluorinated GHGs that are hydrofluorocarbons and that contain only single bonds.

Saturated hydrofluoroethers (HFEs) means fluorinated GHGs in which two hydrocarbon groups are linked by an oxygen atom; in which one or more, but not all, of the hydrogen atoms in the hydrocarbon groups have been replaced by fluorine atoms; and which contain only single bonds.

Semi-refined petroleum product means all oils requiring further processing. Included in this category are unfinished oils which are produced by the partial refining of crude oil and include the following: Naphthas and lighter oils; kerosene and light gas oils; heavy gas oils; and residuum, and all products that require further processing or the addition of blendstocks.

Sendout means, in the context of a local distribution company, the total deliveries of natural gas to customers over a specified time interval (typically hour, day, month, or year). Sendout is the sum of gas received through the city gate, gas withdrawn from on-system storage or peak shaving plants, and gas produced and delivered into the distribution system; and is net of any natural gas injected into on-system storage. It comprises gas sales, exchange, deliveries, gas used by company, and unaccounted for gas. Sendout is measured at the city gate station, and other on-system receipt points from storage, peak shaving, and production.

Sensor means a device that measures a physical quantity/quality or the change in a physical quantity/quality, such as temperature, pressure, flow rate, pH, or liquid level.

SF_6 means sulfur hexafluoride.

Shutdown means the cessation of operation of an emission source for any purpose.

Silicon carbide means an artificial abrasive produced from silica sand or quartz and petroleum coke.

Sinter process means a process that produces a fused aggregate of fine iron-bearing materials suited for use in a blast furnace. The sinter machine is composed of a continuous traveling grate that conveys a bed of ore fines and other finely divided iron-bearing material and fuel (typically coke breeze), a burner at the feed end of the grate for ignition, and a series of downdraft windboxes along the length of the strand to support downdraft

combustion and heat sufficient to produce a fused sinter product.

Site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically located.

Smelting furnace means a furnace in which lead-bearing materials, carbon-containing reducing agents, and fluxes are melted together to form a molten mass of material containing lead and slag.

Solid by-products means plant matter such as vegetable waste, animal materials/wastes, and other solid biomass, except for wood, wood waste, and sulphite lyes (black liquor).

Solid storage is the storage of manure, typically for a period of several months, in unconfined piles or stacks. Manure is able to be stacked due to the presence of a sufficient amount of bedding material or loss of moisture by evaporation.

Sour gas means any gas that contains significant concentrations of hydrogen sulfide. Sour gas may include untreated fuel gas, amine stripper off-gas, or sour water stripper gas.

Sour natural gas means natural gas that contains significant concentrations of hydrogen sulfide (H_2S)and/or carbon dioxide (CO_2) that exceed the concentrations specified for commercially saleable natural gas delivered from transmission and distribution pipelines.

Special naphthas means all finished products with the naphtha boiling range (290 ° to 470 °F) that are generally used as paint thinners, cleaners or solvents. These products are refined to a specified flash point. Special naphthas include all commercial hexane and cleaning solvents conforming to ASTM Specification D1836–07, Standard Specification for Commercial Hexanes, and D235–02 (Reapproved 2007), Standard Specification for Mineral Spirits (Petroleum Spirits) (Hydrocarbon Dry Cleaning Solvent), respectively. Naphthas to be blended or marketed as motor gasoline or aviation gasoline, or that are to be used as petrochemical and synthetic natural gas (SNG) feedstocks are excluded.

Spent liquor solids means the dry weight of the solids in the spent pulping liquor that enters the chemical recovery furnace or chemical recovery combustion unit.

Spent pulping liquor means the residual liquid collected from on-site pulping operations at chemical pulp facilities that is subsequently fired in chemical recovery furnaces at kraft and soda pulp facilities or chemical recovery combustion units at sulfite or semi-chemical pulp facilities.

Standard conditions or standard temperature and pressure (STP), for the purposes of this part, means either 60 or 68 degrees Fahrenheit and 14.7 pounds per square inch absolute.

Steam reforming means a catalytic process that involves a reaction between natural gas or other light hydrocarbons and steam. The result is a mixture of hydrogen, carbon monoxide, carbon dioxide, and water.

Still gas means any form or mixture of gases produced in refineries by distillation, cracking, reforming, and other processes. The principal constituents are methane, ethane, ethylene, normal butane, butylene, propane, and propylene.

Storage tank means a vessel (excluding sumps) that is designed to contain an accumulation of crude oil, condensate, intermediate hydrocarbon liquids, or produced water and that is constructed entirely of non-earthen materials (e.g., wood, concrete, steel, plastic) that provide structural support.

Sulfur recovery plant means all process units which recover sulfur or produce sulfuric acid from hydrogen sulfide (H_2S) and/or sulfur dioxide (SO_2) from a common source of sour gas at a petroleum refinery. The sulfur recovery plant also includes sulfur pits used to store the recovered sulfur product, but it does not include secondary sulfur storage vessels or loading facilities downstream of the sulfur pits. For example, a Claus sulfur recovery plant includes: Reactor furnace and waste heat boiler, catalytic reactors, sulfur pits, and, if present, oxidation or reduction control systems, or incinerator, thermal oxidizer, or similar combustion device. Multiple sulfur recovery units are a single sulfur recovery plant only when the units share the same source of sour gas. Sulfur recovery units that receive source gas from completely

segregated sour gas treatment systems are separate sulfur recovery plants.

Supplemental fuel means a fuel burned within a petrochemical process that is not produced within the process itself.

Supplier means a producer, importer, or exporter in any supply category included in Table A–5 to this subpart, as defined by the corresponding subpart of this part.

Sweet gas is natural gas with low concentrations of hydrogen sulfide (H_2S) and/or carbon dioxide (CO_2) that does not require (or has already had) acid gas treatment to meet pipeline corrosion-prevention specifications for transmission and distribution.

Taconite iron ore processing means an industrial process that separates and concentrates iron ore from taconite, a low grade iron ore, and heats the taconite in an indurating furnace to produce taconite pellets that are used as the primary feed material for the production of iron in blast furnaces at integrated iron and steel plants.

TAME means tertiary amyl methyl ether, $(CH_3)_2(C_2H_5)COCH_3$).

Trace concentrations means concentrations of less than 0.1 percent by mass of the process stream.

Transform means to use and entirely consume (except for trace concentrations) nitrous oxide or fluorinated GHGs in the manufacturing of other chemicals for commercial purposes. Transformation does not include burning of nitrous oxide.

Transshipment means the continuous shipment of nitrous oxide or a fluorinated GHG from a foreign state of origin through the United States or its territories to a second foreign state of final destination, as long as the shipment does not enter into United States jurisdiction. A transshipment, as it moves through the United States or its territories, cannot be re-packaged, sorted or otherwise changed in condition.

Trona means the raw material (mineral) used to manufacture soda ash; hydrated sodium bicarbonate carbonate (e.g., $Na2CO_3.NaHCO_3.2H_2O$).

Ultimate analysis means the determination of the percentages of carbon, hydrogen, nitrogen, sulfur, and chlorine and (by difference) oxygen in the gaseous products and ash after the complete combustion of a sample of an organic material.

Unfinished oils are all oils requiring further processing, except those requiring only mechanical blending.

United States means the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, American Samoa, the Virgin Islands, Guam, and any other Commonwealth, territory or possession of the United States, as well as the territorial sea as defined by Presidential Proclamation No. 5928.

United States parent company(s) means the highest-level United States company(s) with an ownership interest in the facility or supplier as of December 31 of the year for which data are being reported.

Unsaturated halogenated ethers means fluorinated GHGs in which two hydrocarbon groups are linked by an oxygen atom; in which one or more of the hydrogen atoms in the hydrocarbon groups have been replaced by fluorine atoms; and which contain one or more bonds that are not single bonds. Unsaturated ethers include unsaturated HFEs.

Unsaturated hydrochlorofluorocarbons (HCFCs) means fluorinated GHGs that contain only carbon, chlorine, fluorine, and hydrogen and that contain one or more bonds that are not single bonds.

Unsaturated hydrofluorocarbons (HFCs) means fluorinated GHGs that are hydrofluorocarbons and that contain one or more bonds that are not single bonds.

Unsaturated perfluorocarbons (PFCs) means fluorinated GHGs that are perfluorocarbons and that contain one or more bonds that are not single bonds.

Unstabilized crude oil means, for the purposes of this part, crude oil that is pumped from the well to a pipeline or pressurized storage vessel for transport to the refinery without intermediate storage in a storage tank at atmospheric pressures. Unstabilized crude oil is characterized by having a true vapor pressure of 5 pounds per square inch absolute (psia) or greater.

Used oil means a petroleum-derived or synthetically-derived oil whose physical properties have changed as a result of handling or use, such that the

oil cannot be used for its original purpose. Used oil consists primarily of automotive oils (*e.g.*, used motor oil, transmission oil, hydraulic fluids, brake fluid, *etc.*) and industrial oils (*e.g.*, industrial engine oils, metalworking oils, process oils, industrial grease, *etc*).

Valve means any device for halting or regulating the flow of a liquid or gas through a passage, pipeline, inlet, outlet, or orifice; including, but not limited to, gate, globe, plug, ball, butterfly and needle valves.

Vapor recovery system means any equipment located at the source of potential gas emissions to the atmosphere or to a flare, that is composed of piping, connections, and, if necessary, flow-inducing devices, and that is used for routing the gas back into the process as a product and/or fuel.

Vaporization unit means a process unit that performs controlled heat input to vaporize LNG to supply transmission and distribution pipelines or consumers with natural gas.

Vegetable oil means oils extracted from vegetation that are generally used as a feedstock in making biodiesel.

Ventilation hole or shaft means a vent hole or shaft employed at an underground coal mine to serve as the outlet or conduit to move air from the ventilation system out of the mine.

Ventilation system means a system that is used to control the concentration of methane and other gases within mine working areas through mine ventilation, rather than a mine degasification system. A ventilation system consists of fans that move air through the mine workings to dilute methane concentrations.

Volatile solids are the organic material in livestock manure and consist of both biodegradable and non-biodegradable fractions.

Waelz kiln means an inclined rotary kiln in which zinc-containing materials are charged together with a carbon reducing agent (e.g., petroleum coke, metallurgical coke, or anthracite coal).

Waxes means a solid or semi-solid material at 77 °F consisting of a mixture of hydrocarbons obtained or derived from petroleum fractions, or through a Fischer-Tropsch type process, in which the straight chained paraffin series predominates. This includes all marketable wax, whether crude or refined, with a congealing point between 80 (or 85) and 240 °F and a maximum oil content of 50 weight percent.

Well completions means the process that allows for the flow of petroleum or natural gas from newly drilled wells to expel drilling and reservoir fluids and test the reservoir flow characteristics, steps which may vent produced gas to the atmosphere via an open pit or tank. Well completion also involves connecting the well bore to the reservoir, which may include treating the formation or installing tubing, packer(s), or lifting equipment, steps that do not significantly vent natural gas to the atmosphere. This process may also include high-rate flowback of injected gas, water, oil, and proppant used to fracture and prop open new fractures in existing lower permeability gas reservoirs, steps that may vent large quantities of produced gas to the atmosphere.

Well workover means the process(es) of performing one or more of a variety of remedial operations on producing petroleum and natural gas wells to try to increase production. This process also includes high-rate flowback of injected gas, water, oil, and proppant used to re-fracture and prop-open new fractures in existing low permeability gas reservoirs, steps that may vent large quantities of produced gas to the atmosphere.

Wellhead means the piping, casing, tubing and connected valves protruding above the earth's surface for an oil and/or natural gas well. The wellhead ends where the flow line connects to a wellhead valve. Wellhead equipment includes all equipment, permanent and portable, located on the improved land area (*i.e.* well pad) surrounding one or multiple wellheads.

Wet natural gas means natural gas in which water vapor exceeds the concentration specified for commercially saleable natural gas delivered from transmission and distribution pipelines. This input stream to a natural gas dehydrator is referred to as ''wet gas.''

Wood residuals means materials recovered from three principal sources: Municipal solid waste (MSW); construction and demolition debris; and primary timber processing. Wood residuals recovered from MSW include wooden furniture, cabinets, pallets and containers, scrap lumber (from sources other than construction and demolition activities), and urban tree and landscape residues. Wood residuals from construction and demolition debris originate from the construction, repair, remodeling and demolition of houses and non-residential structures. Wood residuals from primary timber processing include bark, sawmill slabs and edgings, sawdust, and peeler log cores. Other sources of wood residuals include, but are not limited to, railroad ties, telephone and utility poles, pier and dock timbers, wastewater process sludge from paper mills, trim, sander dust, and sawdust from wood products manufacturing (including resinated wood product residuals), and logging residues.

Wool fiberglass means fibrous glass of random texture, including fiberglass insulation, and other products listed in NAICS 327993.

Working capacity, for the purposes of subpart TT of this part, means the maximum volume or mass of waste that is actually placed in the landfill from an individual or representative type of container (such as a tank, truck, or roll-off bin) used to convey wastes to the landfill, taking into account that the container may not be able to be 100 percent filled and/or 100 percent emptied for each load.

You means an owner or operator subject to Part 98.

Zinc smelters means a facility engaged in the production of zinc metal, zinc oxide, or zinc alloy products from zinc sulfide ore concentrates, zinc calcine, or zinc-bearing scrap and recycled materials through the use of pyrometallurgical techniques involving the reduction and volatization of zinc-bearing feed materials charged to a furnace.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 39759, July 12, 2010; 75 FR 57686, Sept. 22, 2010; 75 FR 66457, Oct. 28, 2010; 75 FR 74487, Nov. 30, 2010; 75 FR 74816, Dec. 1, 2010; 75 FR 79137, Dec. 17, 2010; 76 FR 73900, Nov. 29, 2011; 76 FR 80573, Dec. 23, 2011; 78 FR 71948, Nov. 29, 2013; 79 FR 70385, Nov. 25, 2014; 79 FR 73778, Dec. 11, 2014]

§ 98.7 What standardized methods are incorporated by reference into this part?

The materials listed in this section are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of approval, and a notice of any change in the materials will be published in the FEDERAL REGISTER. The materials are available for purchase at the corresponding address in this section. The materials are available for inspection at the EPA Docket Center, Public Reading Room, EPA West Building, Room 3334, 1301 Constitution Avenue, NW., Washington, DC, phone (202) 566–1744 and at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*.

(a)–(b) [Reserved]

(c) The following material is available for purchase from the ASM International, 9639 Kinsman Road, Materials Park, OH 44073, (440) 338–5151, *http://www.asminternational.org*.

(1) ASM CS–104 UNS No. G10460—Alloy Digest April 1985 (Carbon Steel of Medium Carbon Content), incorporation by reference (IBR) approved for § 98.174(b).

(2) [Reserved]

(d) The following material is available for purchase from the American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*.

(1) ASME MFC–3M–2004 Measurement of Fluid Flow in Pipes Using Orifice,

Nozzle, and Venturi, incorporation by reference (IBR) approved for §98.124(m)(1), §98.324(e), §98.354(d), §98.354(h), §98.344(c) and §98.364(e).

(2) ASME MFC–4M–1986 (Reaffirmed 1997) Measurement of Gas Flow by Turbine Meters, IBR approved for §98.124(m)(2), §98.324(e), §98.344(c), §98.354(h), and §98.364(e).

(3) ASME MFC–5M–1985 (Reaffirmed 1994) Measurement of Liquid Flow in Closed Conduits Using Transit-Time Ultrasonic Flow Meters, IBR approved for §98.124(m)(3) and §98.354(d).

(4) ASME MFC–6M–1998 Measurement of Fluid Flow in Pipes Using Vortex Flowmeters, IBR approved for §98.124(m)(4), §98.324(e), §98.344(c), §98.354(h), and §98.364(e).

(5) ASME MFC–7M–1987 (Reaffirmed 1992) Measurement of Gas Flow by Means of Critical Flow Venturi Nozzles, IBR approved for §98.124(m)(5), §98.324(e), §98.344(c), §98.354(h), and §98.364(e).

(6) ASME MFC–9M–1988 (Reaffirmed 2001) Measurement of Liquid Flow in Closed Conduits by Weighing Method, IBR approved for §98.124(m)(6).

(7) ASME MFC–11M–2006 Measurement of Fluid Flow by Means of Coriolis Mass Flowmeters, IBR approved for §98.124(m)(7), §98.324(e), §98.344(c), and §98.354(h).

(8) ASME MFC–14M–2003 Measurement of Fluid Flow Using Small Bore Precision Orifice Meters, IBR approved for §98.124(m)(8), §98.324(e), §98.344(c), §98.354(h), and §98.364(e).

(9) ASME MFC–16–2007 Measurement of Liquid Flow in Closed Conduits with Electromagnetic Flow Meters, IBR approved for §98.354(d).

(10) ASME MFC–18M–2001 Measurement of Fluid Flow Using Variable Area Meters, IBR approved for §98.324(e), §98.344(c), §98.354(h), and §98.364(e).

(e) The following material is available for purchase from the American Society for Testing and Material (ASTM), 100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*.

(1) ASTM C25–06 Standard Test Method for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime, incorporation by reference (IBR) approved for §98.114(b), §98.174(b), §98.184(b), §98.194(c), and §98.334(b).

(2) ASTM C114–09 Standard Test Methods for Chemical Analysis of Hydraulic Cement, IBR approved for §98.84(a), §98.84(b), and §98.84(c).

(3) ASTM D235–02 (Reapproved 2007) Standard Specification for Mineral Spirits (Petroleum Spirits) (Hydrocarbon Dry Cleaning Solvent), IBR approved for §98.6.

(4) ASTM D240–02 (Reapproved 2007) Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, IBR approved for §98.254(e).

(5) ASTM D388–05 Standard Classification of Coals by Rank, IBR approved for §98.6.

(6) ASTM D910–07a Standard Specification for Aviation Gasolines, IBR approved for §98.6.

(7) [Reserved]

(8) ASTM D1826–94 (Reapproved 2003) Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, IBR approved for §98.254(e).

(9) ASTM D1836–07 Standard Specification for Commercial Hexanes, IBR approved for §98.6.

(10) ASTM D1945–03 Standard Test Method for Analysis of Natural Gas by Gas Chromatography, IBR approved for §98.74(c), §98.164(b), §98.244(b), §98.254(d), §98.324(d), §98.354(g), and §98.344(b).

(11) ASTM D1946–90 (Reapproved 2006) Standard Practice for Analysis of Reformed Gas by Gas Chromatography, IBR approved for §98.74(c), §98.164(b), §98.254(d), §98.324(d), §98.344(b), §98.354(g), and §98.364(c).

(12) ASTM D2013–07 Standard Practice for Preparing Coal Samples for Analysis, IBR approved for §98.164(b).

(13) ASTM D2234/D2234M–07 Standard Practice for Collection of a Gross Sample of Coal, IBR approved for §98.164(b).

(14) ASTM D2502–04 Standard Test Method for Estimation of Mean Relative Molecular Mass of Petroleum Oils From Viscosity Measurements, IBR approved for §98.74(c).

(15) ASTM D2503–92 (Reapproved 2007) Standard Test Method for Relative Molecular Mass (Molecular Weight) of Hydrocarbons by Thermoelectric Measurement of Vapor Pressure, IBR approved for § 98.74(c) and § 98.254(d)(6).

(16) ASTM D2505–88 (Reapproved 2004)e1 Standard Test Method for Ethylene, Other Hydrocarbons, and Carbon Dioxide in High-Purity Ethylene by Gas Chromatography, IBR approved for § 98.244(b).

(17) ASTM D2597–94 (Reapproved 2004) Standard Test Method for Analysis of Demethanized Hydrocarbon Liquid Mixtures Containing Nitrogen and Carbon Dioxide by Gas Chromatography, IBR approved for § 98.164(b).

(18) ASTM D3176–89 (Reapproved 2002) Standard Practice for Ultimate Analysis of Coal and Coke, IBR approved for § 98.74(c), § 98.164(b), § 98.244(b), § 98.254(i), § 98.284(c), § 98.284(d), § 98.314(c), § 98.314(d), and § 98.314(f).

(19) ASTM D3238–95 (Reapproved 2005) Standard Test Method for Calculation of Carbon Distribution and Structural Group Analysis of Petroleum Oils by the n-d-M Method, IBR approved for § 98.74(c) and § 98.164(b).

(20) ASTM D3588–98 (Reapproved 2003) Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels, IBR approved for § 98.254(e).

(21) ASTM D3682–01 (Reapproved 2006) Standard Test Method for Major and Minor Elements in Combustion Residues from Coal Utilization Processes, IBR approved for § 98.144(b).

(22) ASTM D4057–06 Standard Practice for Manual Sampling of Petroleum and Petroleum Products, IBR approved for § 98.164(b).

(23) ASTM D4177–95 (Reapproved 2005) Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, IBR approved for § 98.164(b).

(24) ASTM D4809–06 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for § 98.254(e).

(25) ASTM D4891–89 (Reapproved 2006) Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion, IBR approved for § 98.254(e) and § 98.324(d).

(26) ASTM D5291–02 (Reapproved 2007) Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum Products and Lubricants, IBR approved for § 98.74(c), § 98.164(b), § 98.244(b), and § 98.254(i).

(27) ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal, IBR approved for § 98.74(c), § 98.114(b), § 98.164(b), § 98.174(b), § 98.184(b), § 98.244(b), § 98.254(i), § 98.274(b), § 98.284(c), § 98.284(d), § 98.314(c), § 98.314(d), § 98.314(f), and § 98.334(b).

(28) [Reserved]

(29) ASTM D6060–96 (Reapproved 2001) Standard Practice for Sampling of Process Vents With a Portable Gas Chromatograph, IBR approved for § 98.244(b).

(30) ASTM D6348–03 Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, IBR approved for § 98.54(b), Table I–9 to subpart I of this part, § 98.224(b), and § 98.414(n).

(31) ASTM D6609–08 Standard Guide for Part-Stream Sampling of Coal, IBR approved for § 98.164(b).

(32) ASTM D6751–08 Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, IBR approved for § 98.6.

(33) ASTM D6866–08 Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis, IBR approved for § 98.34(d), § 98.34(e), and § 98.36(e).

(34) ASTM D6883–04 Standard Practice for Manual Sampling of Stationary Coal from Railroad Cars, Barges, Trucks, or Stockpiles, IBR approved for § 98.164(b).

(35) ASTM D7430–08ae1 Standard Practice for Mechanical Sampling of Coal, IBR approved for § 98.164(b).

(36) ASTM D7459–08 Standard Practice for Collection of Integrated Samples for the Speciation of Biomass (Biogenic) and Fossil-Derived Carbon Dioxide Emitted from Stationary Emissions Sources, IBR approved for § 98.34(d), § 98.34(e), and § 98.36(e).

(37) ASTM E359–00 (Reapproved 2005)e1 Standard Test Methods for

Analysis of Soda Ash (Sodium Carbonate), IBR approved for §98.294(a) and §98.294(b).

(38) ASTM E1019–08 Standard Test Methods for Determination of Carbon, Sulfur, Nitrogen, and Oxygen in Steel, Iron, Nickel, and Cobalt Alloys by Various Combustion and Fusion Techniques, IBR approved for §98.174(b).

(39) [Reserved]

(40) ASTM E1915–07a Standard Test Methods for Analysis of Metal Bearing Ores and Related Materials by Combustion Infrared-Absorption Spectrometry, IBR approved for §98.174(b).

(41) ASTM E1941–04 Standard Test Method for Determination of Carbon in Refractory and Reactive Metals and Their Alloys, IBR approved for §98.114(b), §98.184(b), §98.334(b).

(42) ASTM UOP539–97 Refinery Gas Analysis by Gas Chromatography, IBR approved for §98.164(b), §98.244(b), §98.254(d), §98.324(d), §98.344(b), and §98.354(g).

(43) ASTM D1941–91 (Reapproved 2007) Standard Test Method for Open Channel Flow Measurement of Water with the Parshall Flume, approved June 15, 2007, IBR approved for §98.354(d).

(44) ASTM D5614–94 (Reapproved 2008) Standard Test Method for Open Channel Flow Measurement of Water with Broad-Crested Weirs, approved October 1, 2008, IBR approved for §98.354(d).

(45) ASTM D6349–09 Standard Test Method for Determination of Major and Minor Elements in Coal, Coke, and Solid Residues from Combustion of Coal and Coke by Inductively Coupled Plasma—Atomic Emission Spectrometry, IBR approved for §98.144(b).

(46) ASTM D2879–97 (Reapproved 2007) Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope (ASTM D2879), approved May 1, 2007, IBR approved for §98.128.

(47) ASTM D7359–08 Standard Test Method for Total Fluorine, Chlorine and Sulfur in Aromatic Hydrocarbons and Their Mixtures by Oxidative Pyrohydrolytic Combustion followed by Ion Chromatography Detection (Combustion Ion Chromatography-CIC) (ASTM D7359), approved October 15, 2008, IBR approved for §98.124(e)(2).

(48) ASTM D2593–93 (Reapproved 2009) Standard Test Method for Butadiene Purity and Hydrocarbon Impurities by Gas Chromatography, approved July 1, 2009, IBR approved for §98.244(b)(4)(xi).

(49) ASTM D7633–10 Standard Test Method for Carbon Black—Carbon Content, approved May 15, 2010, IBR approved for §98.244(b)(4)(xii).

(f) The following material is available for purchase from the Gas Processors Association (GPA), 6526 East 60th Street, Tulsa, Oklahoma 74143, (918) 493–3872, *http://www.gasprocessors.com.*

(1) [Reserved]

(2) GPA 2261–00 Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography, IBR approved for §98.164(b), §98.254(d), §98.344(b), and §98.354(g).

(g) The following material is available for purchase from the International Standards Organization (ISO), 1, ch. de la Voie-Creuse, Case postale 56, CH–1211 Geneva 20, Switzerland, +41 22 749 01 11, *http://www.iso.org/iso/home.htm.*

(1) ISO 3170: Petroleum liquids—Manual sampling—Third Edition 2004–02–01, IBR approved for §98.164(b).

(2) ISO 3171: Petroleum Liquids—Automatic pipeline sampling—Second Edition 1988–12–01, IBR approved for §98.164(b).

(3) [Reserved]

(4) ISO/TR 15349–1: 1998, Unalloyed steel—Determination of low carbon content. Part 1: Infrared absorption method after combustion in an electric resistance furnace (by peak separation) (1998–10–15)—First Edition, IBR approved for §98.174(b).

(5) ISO/TR 15349–3: 1998, Unalloyed steel—Determination of low carbon content. Part 3: Infrared absorption method after combustion in an electric resistance furnace (with preheating) (1998–10–15)—First Edition, IBR approved for §98.174(b).

(h) The following material is available for purchase from the National Lime Association (NLA), 200 North Glebe Road, Suite 800, Arlington, Virginia 22203, (703) 243–5463, *http://www.lime.org.*

(1) CO_2 Emissions Calculation Protocol for the Lime Industry—English

Units Version, February 5, 2008 Revision—National Lime Association, incorporation by reference (IBR) approved for § 98.194(c) and § 98.194(e).

(2) [Reserved]

(i) The following material is available for purchase from the National Institute of Standards and Technology (NIST), 100 Bureau Drive, Stop 1070, Gaithersburg, MD 20899–1070, (800) 877–8339, *http://www.nist.gov/index.html*.

(1) Specifications, Tolerances, and Other Technical Requirements For Weighing and Measuring Devices, NIST Handbook 44 (2009), incorporation by reference (IBR) approved for § 98.244(b), § 98.254(h), and § 98.344(a).

(2) [Reserved]

(j) The following material is available for purchase from the Technical Association of the Pulp and Paper Industry (TAPPI), 15 Technology Parkway South, Norcross, GA 30092, (800) 332–8686, *http://www.tappi.org*.

(1) T650 om-05 Solids Content of Black Liquor, TAPPI, incorporation by reference (IBR) approved for § 98.276(c) and § 98.277(d).

(2) T684 om-06 Gross Heating Value of Black Liquor, TAPPI, incorporation by reference (IBR) approved for § 98.274(b).

(k) The following material is available for purchase from Standard Methods, at *http://www.standardmethods.org*, (877) 574–1233; or, through a joint publication agreement from the American Public Health Association (APHA), P.O. Box 933019, Atlanta, GA 31193–3019, (888) 320–APHA (2742), *http://www.apha.org/publications/pubscontact/*.

(1) Method 2540G Total, Fixed, and Volatile Solids in Solid and Semisolid Samples, IBR approved for § 98.464(b).

(2) [Reserved]

(l) The following material is available from the U.S. Department of Labor, Mine Safety and Health Administration, 1100 Wilson Boulevard, 21st Floor, Arlington, VA 22209–3939, (202) 693–9400, *http://www.msha.gov*.

(1) General Coal Mine Inspection Procedures and Inspection Tracking System, Handbook Number: PH–08–V–1, January 1, 2008, IBR approved for § 98.324(b).

(2) [Reserved]

(m) The following material is available from the U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, (202) 272–0167, *http://www.epa.gov*.

(1) NPDES Compliance Inspection Manual, Chapter 5, Sampling, EPA 305–X–04–001, July 2004, *http://www.epa.gov/compliance/monitoring/programs/cwa/npdes.html*, IBR approved for § 98.354(c).

(2) U.S. EPA NPDES Permit Writers' Manual, Section 7.1.3, Sample Collection Methods, EPA 833–B–96–003, December 1996, *http://www.epa.gov/npdes/pubs/owm0243.pdf*, IBR approved for § 98.354(c).

(3) Protocol for Measuring Destruction or Removal Efficiency (DRE) of Fluorinated Greenhouse Gas Abatement Equipment in Electronics Manufacturing, Version 1, EPA–430–R–10–003, March 2010 (EPA 430–R–10–003), *http://www.epa.gov/semiconductor-pfc/documents/dre_protocol.pdf*, IBR approved for § 98.94(f)(4)(i), § 98.94(g)(3), § 98.97(d)(4), § 98.98, Appendix A to subpart I of this part, § 98.124(e)(2), and § 98.414(n)(1).

(4) Emissions Inventory Improvement Program, Volume II: Chapter 16, Methods for Estimating Air Emissions from Chemical Manufacturing Facilities, August 2007, Final, *http://www.epa.gov/ttnchie1/eiip/techreport/volume02/index.html*, IBR approved for § 98.123(c)(1)(i)(A).

(5) Protocol for Equipment Leak Emission Estimates, EPA–453/R–95–017, November 1995 (EPA–453/R–95–017), *http://www.epa.gov/ttnchie1/efdocs/equiplks.pdf*, IBR approved for § 98.123(d)(1)(i), § 98.123(d)(1)(ii), § 98.123(d)(1)(iii), and § 98.124(f)(2).

(6) Tracer Gas Protocol for the Determination of Volumetric Flow Rate Through the Ring Pipe of the Xact Multi-Metals Monitoring System, also known as Other Test Method 24 (Tracer Gas Protocol), Eli Lilly and Company Tippecanoe Laboratories, September 2006, *http://www.epa.gov/ttn/emc/prelim/otm24.pdf*, IBR approved for § 98.124(e)(1)(ii).

(7) Approved Alternative Method 012: An Alternate Procedure for Stack Gas Volumetric Flow Rate Determination (Tracer Gas) (ALT–012), U.S. Environmental Protection Agency Emission Measurement Center, May 23, 1994, *http://www.epa.gov/ttn/emc/approalt/alt-012.pdf*, IBR approved for § 98.124(e)(1)(ii).

(8) Protocol for Measurement of Tetrafluoromethane (CF_4) and Hexafluoroethane (C_2F_6) Emissions from Primary Aluminum Production (2008), *http://www.epa.gov/highgwp/aluminum-pfc/documents/measureprotocol.pdf*, IBR approved for §98.64(a).

(9) AP 42, Section 5.2, Transportation and Marketing of Petroleum Liquids, July 2008, (AP 42, Section 5.2); *http://www.epa.gov/ttn/chief/ap42/ch05/final/c05s02.pdf*; in Chapter 5, Petroleum Industry, of AP 42, Compilation of Air Pollutant Emission Factors, 5th Edition, Volume I, IBR approved for §98.253(n).

(10) Method 9060A, Total Organic Carbon, Revision 1, November 2004 (Method 9060A), *http://www.epa.gov/osw/hazard/testmethods/sw846/pdfs/9060a.pdf*; in EPA Publication No. SW–846, ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' Third Edition, IBR approved for §98.244(b)(4)(viii).

(11) Method 8031, Acrylonitrile By Gas Chromatography, Revision 0, September 1994 (Method 8031), *http://www.epa.gov/osw/hazard/testmethods/sw846/pdfs/8031.pdf;* in EPA Publication No. SW–846, ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' Third Edition, IBR approved for §98.244(b)(4)(viii).

(12) Method 8021B, Aromatic and Halogenated Volatiles By Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, Revision 2, December 1996 (Method 8021B). *http://www.epa.gov/osw/hazard/testmethods/sw846/pdfs/8021b.pdf*; in EPA Publication No. SW–846, ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' Third Edition, IBR approved for §98.244(b)(4)(viii).

(13) Method 8015C, Nonhalogenated Organics By Gas Chromatography, Revision 3, February 2007 (Method 8015C). *http://www.epa.gov/osw/hazard/testmethods/sw846/pdfs/8015c.pdf*; in EPA Publication No. SW–846, ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' Third Edition, IBR approved for §98.244(b)(4)(viii).

(14) AP 42, Section 7.1, Organic Liquid Storage Tanks, November 2006 (AP 42, Section 7.1), *http://www.epa.gov/ttn/chief/ap42/ch07/final/c07s01.pdf*; in Chapter 7, Liquid Storage Tanks, of AP 42, Compilation of Air Pollutant Emission Factors, 5th Edition, Volume I, IBR approved for §98.253(m)(1) and §98.256(o)(2)(i).

(n)–(o) [Reserved]

(p) The following material is available for purchase from the American Association of Petroleum Geologists, 1444 South Boulder Avenue, Tulsa, Oklahoma 74119, (918) 584–2555, *http://www.aapg.org*.

(1) Geologic Note: AAPG–CSD Geologic Provinces Code Map: AAPG Bulletin, Prepared by Richard F. Meyer, Laure G. Wallace, and Fred J. Wagner, Jr., Volume 75, Number 10 (October 1991), pages 1644–1651, IBR approved for §98.238.

(2) Alaska Geological Province Boundary Map, Compiled by the American Association of Petroleum Geologists Committee on Statistics of Drilling in cooperation with the USGS, 1978, IBR approved for §98.238.

(q) The following material is available from the Energy Information Administration (EIA), 1000 Independence Ave., SW., Washington, DC 20585, (202) 586–8800, *http://www.eia.doe.gov/pub/oil_gas/natural_gas/data_publications/field_code_master_list/current/pdf/fcml_all.pdf*.

(1) Oil and Gas Field Code Master List 2008, DOE/EIA0370(08), January 2009, IBR approved for §98.238.

(2) [Reserved]

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 39759, July 12, 2010; 75 FR 66458, Oct. 28, 2010; 75 FR 74488, Nov. 30, 2010; 75 FR 74816, Dec. 1, 2010; 75 FR 79138, Dec. 17, 2010; 78 FR 68202, Nov. 13, 2013; 78 FR 71948, Nov. 29, 2013]

§98.8 What are the compliance and enforcement provisions of this part?

Any violation of any requirement of this part shall be a violation of the Clean Air Act, including section 114 (42 U.S.C. 7414). A violation includes but is not limited to failure to report GHG emissions, failure to collect data needed to calculate GHG emissions, failure to continuously monitor and test as required, failure to retain records needed to verify the amount of GHG emissions, and failure to calculate GHG emissions following the methodologies specified in this part. Each day of a violation constitutes a separate violation.

§ 98.9 Addresses.

All requests, notifications, and communications to the Administrator pursuant to this part must be submitted electronically and in a format as specified by the Administrator. For example, any requests, notifications and communications that can be submitted through the electronic GHG reporting tool, must be submitted through that tool. If not specified, requests, notifications or communications shall be submitted to the following address:

(a) For U.S. mail. Director, Climate Change Division, 1200 Pennsylvania Ave., NW., Mail Code: 6207J, Washington, DC 20460.

(b) For package deliveries. Director, Climate Change Division, 1310 L St, NW., Washington, DC 20005.

[74 FR 56374, Oct. 30, 2009, as amended at 76 FR 73900, Nov. 29, 2011]

TABLE A–1 TO SUBPART A OF PART 98—GLOBAL WARMING POTENTIALS

[100-Year Time Horizon]

Name	CAS No.	Chemical formula	Global warming potential (100 yr.)
Chemical-Specific GWPs			
Carbon dioxide	124–38–9	CO_2	1
Methane	74–82–8	CH_4	[a] 25
Nitrous oxide	10024–97–2	N_2O	[a] 298
Fully Fluorinated GHGs			
Sulfur hexafluoride	2551–62–4	SF_6	[a] 22,800
Trifluoromethyl sulphur pentafluoride	373–80–8	SF_5CF_3	17,700
Nitrogen trifluoride	7783–54–2	NF_3	17,200
PFC–14 (Perfluoromethane)	75–73–0	CF_4	[a] 7,390
PFC–116 (Perfluoroethane)	76–16–4	C_2F_6	[a] 12,200
PFC–218 (Perfluoropropane)	76–19–7	C_3F_8	[a] 8,830
Perfluorocyclopropane	931–91–9	$C–C_3F_6$	17,340
PFC–3–1–10 (Perfluorobutane)	355–25–9	C_4F_{10}	[a] 8,860
PFC–318 (Perfluorocyclobutane)	115–25–3	$C–C_4F_8$	[a] 10,300
PFC–4–1–12 (Perfluoropentane)	678–26–2	C_5F_{12}	[a] 9,160
PFC–5–1–14 (Perfluorohexane, FC–72)	355–42–0	C_6F_{14}	[a] 9,300
PFC–6–1–12	335–57–9	C_7F_{16}; $CF_3(CF_2)_5CF_3$	[b] 7,820
PFC–7–1–18	307–34–6	C_8F_{18}; $CF_3(CF_2)_6CF_3$	[b] 7,620
PFC–9–1–18	306–94–5	$C_{10}F_{18}$	7,500
PFPMIE (HT–70)	NA	$CF_3OCF(CF_3)CF_2OCF_2OCF_3$	10,300
Perfluorodecalin (cis)	60433–11–6	$Z–C_{10}F_{18}$	[b] 7,236
Perfluorodecalin (trans)	60433–12–7	$E–C_{10}F_{18}$	[b] 6,288
Saturated Hydrofluorocarbons (HFCs) With Two or Fewer Carbon-Hydrogen Bonds			
HFC–23	75–46–7	CHF_3	[a] 14,800
HFC–32	75–10–5	CH_2F_2	[a] 675
HFC–125	354–33–6	C_2HF_5	[a] 3,500
HFC–134	359–35–3	$C_2H_2F_4$	[a] 1,100
HFC–134a	811–97–2	CH_2FCF_3	[a] 1,430
HFC–227ca	2252–84–8	$CF_3CF_2CHF_2$	[b] 2640
HFC–227ea	431–89–0	C_3HF_7	[a] 3,220
HFC–236cb	677–56–5	$CH_2FCF_2CF_3$	1,340
HFC–236ea	431–63–0	CHF_2CHFCF_3	1,370
HFC–236fa	690–39–1	$C_3H_2F_6$	[a] 9,810
HFC–329p	375–17–7	$CHF_2CF_2CF_2CF_3$	[b] 2360
HFC–43–10mee	138495–42–8	$CF_3CFHCFHCF_2CF_3$	[a] 1,640
Saturated Hydrofluorocarbons (HFCs) With Three or More Carbon-Hydrogen Bonds			
HFC–41	593–53–3	CH_3F	[a] 92
HFC–143	430–66–0	$C_2H_3F_3$	[a] 353
HFC–143a	420–46–2	$C_2H_3F_3$	[a] 4,470
HFC–152	624–72–6	CH_2FCH_2F	53
HFC–152a	75–37–6	CH_3CHF_2	[a] 124
HFC–161	353–36–6	CH_3CH_2F	12
HFC–245ca	679–86–7	$C_3H_3F_5$	[a] 693
HFC–245cb	1814–88–6	$CF_3CF_2CH_3$	[b] 4620

[100-Year Time Horizon]

Name	CAS No.	Chemical formula	Global warming potential (100 yr.)
HFC–245ea	24270–66–4	$CHF_2CHFCHF_2$	[b] 235
HFC–245eb	431–31–2	$CH_2FCHFCF_3$	[b] 290
HFC–245fa	460–73–1	$CHF_2CH_2CF_3$	1,030
HFC–263fb	421–07–8	$CH_3CH_2CF_3$	[b] 76
HFC–272ca	420–45–1	$CH_3CF_2CH_3$	[b] 144
HFC–365mfc	406–58–6	$CH_3CF_2CH_2CF_3$	794
Saturated Hydrofluoroethers (HFEs) and Hydrochlorofluoroethers (HCFEs) With One Carbon-Hydrogen Bond			
HFE–125	3822–68–2	CHF_2OCF_3	14,900
HFE–227ea	2356–62–9	$CF_3CHFOCF_3$	1,540
HFE–329mcc2	134769–21–4	$CF_3CF_2OCF_2CHF_2$	919
HFE–329me3	428454–68–6	$CF_3CFHCF_2OCF_3$	[b] 4,550
1,1,1,2,2,3,3-Heptafluoro-3-(1,2,2,2-tetrafluoroethoxy)-propane.	3330–15–2	$CF_3CF_2CF_2OCHFCF_3$	[b] 6,490
Saturated HFEs and HCFEs With Two Carbon-Hydrogen Bonds			
HFE–134 (HG–00)	1691–17–4	CHF_2OCHF_2	6,320
HFE–236ca	32778–11–3	$CHF_2OCF_2CHF_2$	[b] 4,240
HFE–236ca12 (HG–10)	78522–47–1	$CHF_2OCF_2OCHF_2$	2,800
HFE–236ea2 (Desflurane)	57041–67–5	$CHF_2OCHFCF_3$	989
HFE–236fa	20193–67–3	$CF_3CH_2OCF_3$	487
HFE–338mcf2	156053–88–2	$CF_3CF_2OCH_2CF_3$	552
HFE–338mmz1	26103–08–2	$CHF_2OCH(CF_3)_2$	380
HFE–338pcc13 (HG–01)	188690–78–0	$CHF_2OCF_2CF_2OCHF_2$	1,500
HFE–43–10pccc (H-Galden 1040x, HG–11)	E1730133	$CHF_2OCF_2OC_2F_4OCHF_2$	1,870
HCFE–235ca2 (Enflurane)	13838–16–9	CHF_2OCF_2CHFCl	[b] 583
HCFE–235da2 (Isoflurane)	26675–46–7	$CHF_2OCHClCF_3$	350
HG–02	205367–61–9	$HF_2C-(OCF_2CF_2)_2-OCF_2H$	[b] 3,825
HG–03	173350–37–3	$HF_2C-(OCF_2CF_2)_3-OCF_2H$	[b] 3,670
HG–20	249932–25–0	$HF_2C-(OCF_2)_2-OCF_2H$	[b] 5,300
HG–21	249932–26–1	$HF_2C-OCF_2CF_2OCF_2OCF_2O-CF_2H$.	[b] 3,890
HG–30	188690–77–9	$HF_2C-(OCF_2)_3-OCF_2H$	[b] 7,330
1,1,3,3,4,4,6,6,7,7,9,9,10,10,12,12,13,13,15,15-eicosafluoro-2,5,8,11,14-Pentaoxapentadecane.	173350–38–4	$HCF_2O(CF_2CF_2O)_4CF_2H$	[b] 3,630
1,1,2-Trifluoro-2-(trifluoromethoxy)-ethane	84011–06–3	$CHF_2CHFOCF_3$	[b] 1,240
Trifluoro(fluoromethoxy)methane	2261–01–0	CH_2FOCF_3	[b] 751
Saturated HFEs and HCFEs With Three or More Carbon-Hydrogen Bonds			
HFE–143a	421–14–7	CH_3OCF_3	756
HFE–245cb2	22410–44–2	$CH_3OCF_2CF_3$	708
HFE–245fa1	84011–15–4	$CHF_2CH_2OCF_3$	286
HFE–245fa2	1885–48–9	$CHF_2OCH_2CF_3$	659
HFE–254cb2	425–88–7	$CH_3OCF_2CHF_2$	359
HFE–263fb2	460–43–5	$CF_3CH_2OCH_3$	11
HFE–263m1; R–E–143a	690–22–2	$CF_3OCH_2CH_3$	[b] 29
HFE–347mcc3 (HFE–7000)	375–03–1	$CH_3OCF_2CF_2CF_3$	575
HFE–347mcf2	171182–95–9	$CF_3CF_2OCH_2CHF_2$	374
HFE–347mmy1	22052–84–2	$CH_3OCF(CF_3)_2$	343
HFE–347mmz1 (Sevoflurane)	28523–86–6	$(CF_3)_2CHOCH_2F$	[c] 216
HFE–347pcf2	406–78–0	$CHF_2CF_2OCH_2CF_3$	580
HFE–356mec3	382–34–3	$CH_3OCF_2CHFCF_3$	101
HFE–356mff2	333–36–8	$CF_3CH_2OCH_2CF_3$	[b] 17
HFE–356mmz1	13171–18–1	$(CF_3)_2CHOCH_3$	27
HFE–356pcc3	160620–20–2	$CH_3OCF_2CF_2CHF_2$	110
HFE–356pcf2	50807–77–7	$CHF_2CH_2OCF_2CHF_2$	265
HFE–356pcf3	35042–99–0	$CHF_2OCH_2CF_2CHF_2$	502
HFE–365mcf2	22052–81–9	$CF_3CF_2OCH_2CH_3$	[b] 58
HFE–365mcf3	378–16–5	$CF_3CF_2CH_2OCH_3$	11
HFE–374pc2	512–51–6	$CH_3CH_2OCF_2CHF_2$	557
HFE–449s1 (HFE–7100) Chemical blend	163702–07–6 163702–08–7	$C_4F_9OCH_3$ $(CF_3)_2CFCF_2OCH_3$.	297
HFE–569sf2 (HFE–7200) Chemical blend	163702–05–4 163702–06–5	$C_4F_9OC_2H_5$ $(CF_3)_2CFCF_2OC_2H_5$.	59
HG'-01	73287–23–7	$CH_3OCF_2CF_2OCH_3$	[b] 222
HG'-02	485399–46–0	$CH_3O(CF_2CF_2O)_2CH_3$	[b] 236
HG'-03	485399–48–2	$CH_3O(CF_2CF_2O)_3CH_3$	[b] 221

[100-Year Time Horizon]

Name	CAS No.	Chemical formula	Global warming potential (100 yr.)
Difluoro(methoxy)methane	359–15–9	CH_3OCHF_2	[b] 144
2-Chloro-1,1,2-trifluoro-1-methoxyethane	425–87–6	CH_3OCF_2CHFCl	[b] 122
1-Ethoxy-1,1,2,2,3,3,3-heptafluoropropane	22052–86–4	$CF_3CF_2CF_2OCH_2CH_3$	[b] 61
2-Ethoxy-3,3,4,4,5-pentafluorotetrahydro-2,5-bis[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-furan.	920979–28–8	$C_{12}H_5F_{19}O_2$	[b] 56
1-Ethoxy-1,1,2,3,3,3-hexafluoropropane	380–34–7	$CF_3CHFCF_2OCH_2CH_3$	[b] 23
Fluoro(methoxy)methane	460–22–0	CH_3OCH_2F	[b] 13
1,1,2,2-Tetrafluoro-3-methoxy-propane; Methyl 2,2,3,3-tetrafluoropropyl ether.	60598–17–6	$CHF_2CF_2CH_2OCH_3$	[b] 0.5
1,1,2,2-Tetrafluoro-1-(fluoromethoxy)ethane	37031–31–5	$CH_2FOCF_2CF_2H$	[b] 871
Difluoro(fluoromethoxy)methane	461–63–2	CH_2FOCHF_2	[b] 617
Fluoro(fluoromethoxy)methane	462–51–1	CH_2FOCH_2F	[b] 130
Fluorinated Formates			
Trifluoromethyl formate	85358–65–2	$HCOOCF_3$	[b] 588
Perfluoroethyl formate	313064–40–3	$HCOOCF_2CF_3$	[b] 580
1,2,2,2-Tetrafluoroethyl formate	481631–19–0	$HCOOCHFCF_3$	[b] 470
Perfluorobutyl formate	197218–56–7	$HCOOCF_2CF_2CF_2CF_3$	[b] 392
Perfluoropropyl formate	271257–42–2	$HCOOCF_2CF_2CF_3$	[b] 376
1,1,1,3,3,3-Hexafluoropropan-2-yl formate	856766–70–6	$HCOOCH(CF_3)_2$	[b] 333
2,2,2-Trifluoroethyl formate	32042–38–9	$HCOOCH_2CF_3$	[b] 33
3,3,3-Trifluoropropyl formate	1344118–09–7	$HCOOCH_2CH_2CF_3$	[b] 17
Fluorinated Acetates			
Methyl 2,2,2-trifluoroacetate	431–47–0	CF_3COOCH_3	[b] 52
1,1-Difluoroethyl 2,2,2-trifluoroacetate	1344118–13–3	$CF_3COOCF_2CH_3$	[b] 31
Difluoromethyl 2,2,2-trifluoroacetate	2024–86–4	$CF_3COOCHF_2$	[b] 27
2,2,2-Trifluoroethyl 2,2,2-trifluoroacetate	407–38–5	$CF_3COOCH_2CF_3$	[b] 7
Methyl 2,2-difluoroacetate	433–53–4	HCF_2COOCH_3	[b] 3
Perfluoroethyl acetate	343269–97–6	$CH_3COOCF_2CF_3$	[b] 2.1
Trifluoromethyl acetate	74123–20–9	CH_3COOCF_3	[b] 2.0
Perfluoropropyl acetate	1344118–10–0	$CH_3COOCF_2CF_2CF_3$	[b] 1.8
Perfluorobutyl acetate	209597–28–4	$CH_3COOCF_2CF_2CF_2CF_3$	[b] 1.6
Ethyl 2,2,2-trifluoroacetate	383–63–1	$CF_3COOCH_2CH_3$	[b] 1.3
Carbonofluoridates			
Methyl carbonofluoridate	1538–06–3	$FCOOCH_3$	[b] 95
1,1-Difluoroethyl carbonofluoridate	1344118–11–1	$FCOOCF_2CH_3$	[b] 27
Fluorinated Alcohols Other Than Fluorotelomer Alcohols			
Bis(trifluoromethyl)-methanol	920–66–1	$(CF_3)_2CHOH$	195
(Octafluorotetramethy-lene) hydroxymethyl group	NA	$X\text{-}(CF_2)_4CH(OH)\text{-}X$	73
2,2,3,3,3-Pentafluoropropanol	422–05–9	$CF_3CF_2CH_2OH$	42
2,2,3,3,4,4,4-Heptafluorobutan-1-ol	375–01–9	C_3F_7CH2OH	[b] 25
2,2,2-Trifluoroethanol	75–89–8	CF_3CH_2OH	[b] 20
2,2,3,4,4,4-Hexafluoro-1-butanol	382–31–0	$CF_3CHFCF_2CH_2OH$	[b] 17
2,2,3,3-Tetrafluoro-1-propanol	76–37–9	$CHF_2CF_2CH_2OH$	[b] 13
2,2-Difluoroethanol	359–13–7	CHF_2CH2OH	[b] 3
2-Fluoroethanol	371–62–0	CH_2FCH_2OH	[b] 1.1
4,4,4-Trifluorobutan-1-ol	461–18–7	$CF_3(CH_2)_2CH_2OH$	[b] 0.05
Unsaturated Perfluorocarbons (PFCs)			
PFC–1114; TFE	116–14–3	$CF_2{=}CF_2$; C_2F_4	[b] 0.004
PFC–1216; Dyneon HFP	116–15–4	C_3F_6; $CF_3CF{=}CF_2$	[b] 0.05
PFC C–1418	559–40–0	$c\text{-}C_5F_8$	[b] 1.97
Perfluorobut-2-ene	360–89–4	$CF_3CF{=}CFCF_3$	[b] 1.82
Perfluorobut-1-ene	357–26–6	$CF_3CF_2CF{=}CF_2$	[b] 0.10
Perfluorobuta-1,3-diene	685–63–2	$CF_2{=}CFCF{=}CF_2$	[b] 0.003
Unsaturated Hydrofluorocarbons (HFCs) and Hydrochlorofluorocarbons (HCFCs)			
HFC–1132a; VF2	75–38–7	$C_2H_2F_2$, $CF_2{=}CH_2$	[b] 0.04
HFC–1141; VF	75–02–5	C_2H_3F, $CH_2{=}CHF$	[b] 0.02
(E)-HFC–1225ye	5595–10–8	$CF_3CF{=}CHF(E)$	[b] 0.06
(Z)-HFC–1225ye	5528–43–8	$CF_3CF{=}CHF(Z)$	[b] 0.22

[100-Year Time Horizon]

Name	CAS No.	Chemical formula	Global warming potential (100 yr.)
Solstice 1233zd(E)	102687–65–0	$C_3H_2ClF_3$; $CHCl=CHCF_3$	[b] 1.34
HFC–1234yf; HFO–1234yf	754–12–1	$C_3H_2F_4$; $CF_3CF=CH_2$	[b] 0.31
HFC–1234ze(E)	1645–83–6	$C_3H_2F_4$; trans-$CF_3CH=CHF$	[b] 0.97
HFC–1234ze(Z)	29118–25–0	$C_3H_2F_4$; cis-$CF_3CH=CHF$; $CF_3CH=CHF$.	[b] 0.29
HFC–1243zf; TFP	677–21–4	$C_3H_3F_3$, $CF_3CH=CH_2$	[b] 0.12
(Z)-HFC–1336	692–49–9	$CF_3CH=CHCF_3$(Z)	[b] 1.58
HFC–1345zfc	374–27–6	$C_2F_5CH=CH_2$	[b] 0.09
Capstone 42–U	19430–93–4	$C_6H_3F_9$, $CF_3(CF_2)_3CH=CH_2$	[b] 0.16
Capstone 62–U	25291–17–2	$C_8H_3F_{13}$, $CF_3(CF_2)_5CH=CH_2$	[b] 0.11
Capstone 82–U	21652–58–4	$C_{10}H_3F_{17}$, $CF_3(CF_2)_7CH=CH_2$	[b] 0.09
Unsaturated Halogenated Ethers			
PMVE; HFE–216	1187–93–5	$CF_3OCF=CF_2$	[b] 0.17
Fluoroxene	406–90–6	$CF_3CH_2OCH=CH_2$	[b] 0.05
Fluorinated Aldehydes			
3,3,3-Trifluoro-propanal	460–40–2	CF_3CH_2CHO	[b] 0.01
Fluorinated Ketones			
Novec 1230 (perfluoro (2-methyl-3-pentanone))	756–13–8	$CF_3CF_2C(O)CF(CF3)_2$	[b] 0.1
Fluorotelomer Alcohols			
3,3,4,4,5,5,6,6,7,7,7-Undecafluoroheptan-1-ol	185689–57–0	$CF_3(CF_2)_4CH_2CH_2OH$	[b] 0.43
3,3,3-Trifluoropropan-1-ol	2240–88–2	$CF_3CH_2CH_2OH$	[b] 0.35
3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-Pentadecafluorononan-1-ol	755–02–2	$CF_3(CF_2)_6CH_2CH_2OH$	[b] 0.33
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-Nonadecafluoroundecan-1-ol.	87017–97–8	$CF_3(CF_2)_8CH_2CH_2OH$	[b] 0.19
Fluorinated GHGs With Carbon-Iodine Bond(s)			
Trifluoroiodomethane	2314–97–8	CF_3I	[b] 0.4
Other Fluorinated Compounds			
Dibromodifluoromethane (Halon 1202)	75–61–6	CBR_2F_2	[b] 231
2-Bromo-2-chloro-1,1,1-trifluoroethane (Halon-2311/Halothane).	151–67–7	$CHBrClCF_3$	[b] 41
Fluorinated GHG Group [d]			Global warming potential (100 yr.)
Default GWPs for Compounds for Which Chemical-Specific GWPs Are Not Listed Above			
Fully fluorinated GHGs			10,000
Saturated hydrofluorocarbons (HFCs) with 2 or fewer carbon-hydrogen bonds			3,700
Saturated HFCs with 3 or more carbon-hydrogen bonds			930
Saturated hydrofluoroethers (HFEs) and hydrochlorofluoroethers (HCFEs) with 1 carbon-hydrogen bond			5,700
Saturated HFEs and HCFEs with 2 carbon-hydrogen bonds			2,600
Saturated HFEs and HCFEs with 3 or more carbon-hydrogen bonds			270
Fluorinated formates			350
Fluorinated acetates, carbonofluoridates, and fluorinated alcohols other than fluorotelomer alcohols			30
Unsaturated perfluorocarbons (PFCs), unsaturated HFCs, unsaturated hydrochlorofluorocarbons (HCFCs), unsaturated halogenated ethers, unsaturated halogenated esters, fluorinated aldehydes, and fluorinated ketones			1
Fluorotelomer alcohols			1
Fluorinated GHGs with carbon-iodine bond(s)			1
Other fluorinated GHGs			2,000

[a] The GWP for this compound was updated in the final rule published on November 29, 2013 [78 FR 71904] and effective on January 1, 2014.

[b] This compound was added to Table A–1 in the final rule published on December 11, 2014, and effective on January 1, 2015.

[c] The GWP for this compound was updated in the final rule published on December 11, 2014, and effective on January 1, 2015 .

[d] For electronics manufacturing (as defined in § 98.90), the term ''fluorinated GHGs'' in the definition of each fluorinated GHG group in § 98.6 shall include fluorinated heat transfer fluids (as defined in § 98.98), whether or not they are also fluorinated GHGs.

[79 FR 73779, Dec. 11, 2014]

TABLE A–2 TO SUBPART A OF PART 98—UNITS OF MEASURE CONVERSIONS

To convert from	To	Multiply by
Kilograms (kg)	Pounds (lbs)	2.20462
Pounds (lbs)	Kilograms (kg)	0.45359
Pounds (lbs)	Metric tons	4.53592×10^{-4}
Short tons	Pounds (lbs)	2,000
Short tons	Metric tons	0.90718
Metric tons	Short tons	1.10231
Metric tons	Kilograms (kg)	1,000
Cubic meters (m^3)	Cubic feet (ft^3)	35.31467
Cubic feet (ft^3)	Cubic meters (m^3)	0.028317
Gallons (liquid, US)	Liters (l)	3.78541
Liters (l)	Gallons (liquid, US)	0.26417
Barrels of Liquid Fuel (bbl)	Cubic meters (m^3)	0.15891
Cubic meters (m^3)	Barrels of Liquid Fuel (bbl)	6.289
Barrels of Liquid Fuel (bbl)	Gallons (liquid, US)	42
Gallons (liquid, US)	Barrels of Liquid Fuel (bbl)	0.023810
Gallons (liquid, US)	Cubic meters (m^3)	0.0037854
Liters (l)	Cubic meters (m^3)	0.001
Feet (ft)	Meters (m)	0.3048
Meters (m)	Feet (ft)	3.28084
Miles (mi)	Kilometers (km)	1.60934
Kilometers (km)	Miles (mi)	0.62137
Square feet (ft^2)	Acres	2.29568×10^{-5}
Square meters (m^2)	Acres	2.47105×10^{-4}
Square miles (mi^2)	Square kilometers (km^2)	2.58999
Degrees Celsius (°C)	Degrees Fahrenheit (°F)	°C = (5/9) × (°F − 32)
Degrees Fahrenheit (°F)	Degrees Celsius (°C)	°F = (9/5) × °C + 32
Degrees Celsius (°C)	Kelvin (K)	K = °C + 273.15
Kelvin (K)	Degrees Rankine (°R)	1.8
Joules	Btu	9.47817×10^{-4}
Btu	MMBtu	1×10^{-6}
Pascals (Pa)	Inches of Mercury (in Hg)	2.95334×10^{-4}
Inches of Mercury (inHg)	Pounds per square inch (psi)	0.49110
Pounds per square inch (psi)	Inches of Mercury (in Hg)	2.03625

TABLE A–3 TO SUBPART A OF PART 98—SOURCE CATEGORY LIST FOR § 98.2(a)(1)

SOURCE CATEGORY LIST FOR § 98.2(a)(1)

Source Categories[a] Applicable in 2010 and Future Years

- Electricity generation units that report CO_2 mass emissions year round through 40 CFR part 75 (subpart D).
- Adipic acid production (subpart E).
- Aluminum production (subpart F).
- Ammonia manufacturing (subpart G).
- Cement production (subpart H).
- HCFC–22 production (subpart O).
- HFC–23 destruction processes that are not collocated with a HCFC–22 production facility and that destroy more than 2.14 metric tons of HFC–23 per year (subpart O).
- Lime manufacturing (subpart S).
- Nitric acid production (subpart V).
- Petrochemical production (subpart X).
- Petroleum refineries (subpart Y).
- Phosphoric acid production (subpart Z).
- Silicon carbide production (subpart BB).
- Soda ash production (subpart CC).
- Titanium dioxide production (subpart EE).
- Municipal solid waste landfills that generate CH_4 in amounts equivalent to 25,000 metric tons CO_2e or more per year, as determined according to subpart HH of this part.
- Manure management systems with combined CH_4 and N_2O emissions in amounts equivalent to 25,000 metric tons CO_2e or more per year, as determined according to subpart JJ of this part.

Additional Source Categories[a] Applicable in 2011 and Future Years

Electrical transmission and distribution equipment use at facilities where the total nameplate capacity of SF_6 and PFC containing equipment exceeds 17,820 pounds, as determined under § 98.301 (subpart DD).

Underground coal mines liberating 36,500,000 actual cubic feet of CH_4 or more per year (subpart FF).

Geologic sequestration of carbon dioxide (subpart RR).

- Electrical transmission and distribution equipment manufacture or refurbishment (subpart SS).

Injection of carbon dioxide (subpart UU).

[a] Source categories are defined in each applicable subpart.

[75 FR 39760, July 12, 2010, as amended at 75 FR 74817, 75078, Dec. 1, 2010; 76 FR 73900, Nov. 29, 2011]

TABLE A–4 TO SUBPART A OF PART 98—SOURCE CATEGORY LIST FOR § 98.2(a)(2)

Source Categories [a] Applicable in 2010 and Future Years
Ferroalloy production (subpart K).
Glass production (subpart N).
Hydrogen production (subpart P).
Iron and steel production (subpart Q).
Lead production (subpart R).
Pulp and paper manufacturing (subpart AA).
Zinc production (subpart GG).
Additional Source Categories [a] Applicable in 2011 and Future Years
Electronics manufacturing (subpart I)
Fluorinated gas production (subpart L)
Magnesium production (subpart T).
Petroleum and Natural Gas Systems (subpart W)
Industrial wastewater treatment (subpart II).
Industrial waste landfills (subpart TT).

[a] Source categories are defined in each applicable subpart.

[75 FR 39760, July 12, 2010, as amended at 75 FR 74488, Nov. 30, 2010; 75 FR 74817, Dec. 1, 2010]

TABLE A–5 TO SUBPART A OF PART 98—SUPPLIER CATEGORY LIST FOR § 98.2(a)(4)

Supplier Categories [a] Applicable in 2010 and Future Years
Coal-to-liquids suppliers (subpart LL):
(A) All producers of coal-to-liquid products.
(B) Importers of an annual quantity of coal-to-liquid products that is equivalent to 25,000 metric tons CO_2e or more.
(C) Exporters of an annual quantity of coal-to-liquid products that is equivalent to 25,000 metric tons CO_2e or more.
Petroleum product suppliers (subpart MM):
(A) All petroleum refineries that distill crude oil.
(B) Importers of an annual quantity of petroleum products and natural gas liquids that is equivalent to 25,000 metric tons CO_2e or more.
(C) Exporters of an annual quantity of petroleum products and natural gas liquids that is equivalent to 25,000 metric tons CO_2e or more.
Natural gas and natural gas liquids suppliers (subpart NN):
(A) All fractionators.
(B) Local natural gas distribution companies that deliver 460,000 thousand standard cubic feet or more of natural gas per year.
Industrial greenhouse gas suppliers (subpart OO):
(A) All producers of industrial greenhouse gases.
(B) Importers of industrial greenhouse gases with annual bulk imports of N_2O, fluorinated GHG, and CO_2 that in combination are equivalent to 25,000 metric tons CO_2e or more.
(C) Exporters of industrial greenhouse gases with annual bulk exports of N_2O, fluorinated GHG, and CO_2 that in combination are equivalent to 25,000 metric tons CO_2e or more.
Carbon dioxide suppliers (subpart PP):
(A) All producers of CO_2.
(B) Importers of CO_2 with annual bulk imports of N_2O, fluorinated GHG, and CO_2 that in combination are equivalent to 25,000 metric tons CO_2e or more.
(C) Exporters of CO_2 with annual bulk exports of N_2O, fluorinated GHG, and CO_2 that in combination are equivalent to 25,000 metric tons CO_2e or more.
Additional Supplier Categories Applicable [a] in 2011 and Future Years
Importers and exporters of fluorinated greenhouse gases contained in pre-charged equipment or closed-cell foams (subpart QQ):
(A) Importers of an annual quantity of fluorinated greenhouse gases contained in pre-charged equipment or closed-cell foams that is equivalent to 25,000 metric tons CO_2e or more.
(B) Exporters of an annual quantity of fluorinated greenhouse gases contained in pre-charged equipment or closed-cell foams that is equivalent to 25,000 metric tons CO_2e or more.

[a] Suppliers are defined in each applicable subpart.

[75 FR 39760, July 12, 2010, as amended at 75 FR 74817, Dec. 1, 2010; 75 FR 79140, Dec. 17, 2010; 76 FR 73901, Nov. 29, 2011]

TABLE A–6 TO SUBPART A OF PART 98—DATA ELEMENTS THAT ARE INPUTS TO EMISSION EQUATIONS AND FOR WHICH THE REPORTING DEADLINE IS MARCH 31, 2013

Subpart	Rule citation (40 CFR part 98)	Specific data elements for which reporting date is March 31, 2013 (''All'' means all data elements in the cited paragraph are not required to be reported until March 31, 2013)
C	98.36(d)(1)(iv)	All.
C	98.36(d)(2)(ii)(G)	All.
C	98.36(d)(2)(iii)(G)	All.
C	98.36(e)(2)(iv)(G)	All.
C	98.36(e)(2)(viii)(A)	All.
C	98.36(e)(2)(viii)(B)	All.
C	98.36(e)(2)(viii)(C)	All.
C	98.36(e)(2)(x)(A)	All.
C	98.36(e)(2)(xi)	All.
DD	98.306(a)(2)	All.
DD	98.306(a)(3)	All.
DD	98.306(d)	All.
DD	98.306(e)	All.
DD	98.306(f)	All.
DD	98.306(g)	All.
DD	98.306(h)	All.
DD	98.306(i)	All.
DD	98.306(j)	All.
DD	98.306(k)	All.
DD	98.306(l)	All.
FF	98.326(a)	All.
FF	98.326(b)	All.
FF	98.326(c)	All.
FF	98.326(f)	Only quarterly volumetric flow rate.
FF	98.326(g)	Only quarterly CH_4 concentration.
FF	98.326(h)	Only weekly volumetric flow used to calculate CH_4 liberated from degasification systems.
FF	98.326(j)	All.
FF	98.326(k)	All.
FF	98.326(o)	All.
FF	98.326(p)	Only assumed destruction efficiency for the primary destruction device and assumed destruction efficiency for the backup destruction device.
HH	98.346(a)	Only year in which landfill first accepted waste, last year the landfill accepted waste (if used as an input in Equation HH–3), capacity of the landfill (if used as an input in Equation HH–3), and waste disposal quantity for each year of landfilling.
HH	98.346(b)	Only quantity of waste determined using the methods in § 98.343(a)(3)(i), quantity of waste determined using the methods in § 98.343(a)(3)(ii), population served by the landfill for each year, and the value of landfill capacity (LFC) used in the calculation.
HH	98.346(c)	All.
HH	98.346(d)(1)	Only degradable organic carbon (DOC) value, and fraction of DOC dissimilated (DOCF) values.
HH	98.346(d)(2)	All.
HH	98.346(e)	Only fraction of CH_4 in landfill gas and methane correction factor (MCF) values.
HH	98.346(f)	Only surface area associated with each cover type.
HH	98.346(g)	All.
HH	98.346(i)(5)	Only annual operating hours for the destruction devices located at the landfill facility, and the destruction efficiency for the destruction devices associated with that measurement location.
HH	98.346(i)(6)	All.
HH	98.346(i)(7)	Only surface area specified in Table HH–3, estimated gas collection system efficiency, and annual operating hours of the gas collection system for each measurement locations.
HH	98.346(i)(9)	Only CH_4 generation value.
II	98.356(b)(1)	All.
II	98.356(b)(2)	All.
II	98.356(b)(3)	All.
II	98.356(b)(4)	All.
II	98.356(b)(5)	All.
II	98.356(d)(1)	All.
II	98.356(d)(7)	All.
II	98.356(d)(8)	Only annual operating hours for the primary destruction device, annual operating hours for the backup destruction device, destruction efficiency of the primary destruction device, and destruction efficiency of the backup destruction device.
SS	98.456(a)	All.

Subpart	Rule citation (40 CFR part 98)	Specific data elements for which reporting date is March 31, 2013 (''All'' means all data elements in the cited paragraph are not required to be reported until March 31, 2013)
SS	98.456(b)	All.
SS	98.456(c)	All.
SS	98.456(d)	All.
SS	98.456(e)	All.
SS	98.456(f)	All.
SS	98.456(g)	All.
SS	98.456(h)	All.
SS	98.456(i)	All.
SS	98.456(j)	All.
SS	98.456(m)	All.
SS	98.456(n)	All.
SS	98.456(o)	All.
SS	98.456(q)	All.
SS	98.456(r)	All.
SS	98.456(s)	All.
SS	98.456(t)	Only for any missing data the substitute parameters used to estimate emissions in their absence.
TT	98.466(a)(2)	All.
TT	98.466(a)(3)	Only last year the landfill accepted waste (for closed landfills using Equation TT–4).
TT	98.466(a)(4)	Only capacity of the landfill in metric tons (for closed landfills using Equation TT–4).
TT	98.466(b)(3)	Only fraction of CH_4 in landfill gas.
TT	98.466(b)(4)	Only the methane correction factor (MCF) value used in the calculations.
TT	98.466(c)(4)(i)	All.
TT	98.466(c)(4)(ii)	All.
TT	98.466(c)(4)(iii)	All.
TT	98.466(d)(2)	All.
TT	98.466(d)(3)	Only degradable organic carbon (DOCx) value for each waste stream used in calculations.
TT	98.466(e)(2)	Only surface area (in square meters) at the start of the reporting year for the landfill sections that contain waste and that are associated with the selected cover type (for facilities using a landfill gas collection system).
TT	98.466(f)	All.

[76 FR 53065, Aug. 25, 2011, as amended at 77 FR 48088, Aug. 13, 2012; 78 FR 71949, Nov. 29, 2013]

Table A–7 to Subpart A of Part 98—Data Elements That Are Inputs to Emission Equations and for Which the Reporting Deadline Is March 31, 2015

Subpart	Rule citation (40 CFR part 98)	Specific data elements for which reporting date is March 31, 2015 (''All'' means all data elements in the cited paragraph are not required to be reported until March 31, 2015)
A	98.3(d)(3)(v)	All.[a]
C	98.36(b)(9)(iii)	Only estimate of the heat input.[a]
C	98.36(c)(2)(ix)	Only estimate of the heat input from each type of fuel listed in Table C–2.[a]
C	98.36(e)(2)(i)	All.[a]
C	98.36(e)(2)(ii)(A)	All.[a]
C	98.36(e)(2)(ii)(C)	Only HHV value for each calendar month in which HHV determination is required.[a]
C	98.36(e)(2)(ii)(D)	All.[a]
C	98.36(e)(2)(iv)(A)	All.[a]
C	98.36(e)(2)(iv)(C)	All.[a]
C	98.36(e)(2)(iv)(F)	All.[a]
C	98.36(e)(2)(ix)(D)	All.[a]
C	98.36(e)(2)(ix)(E)	All.[a]
C	98.36(e)(2)(ix)(F)	All.[a]
E	98.56(g)	All.
E	98.56(h)	All.
E	98.56(j)(4)	All.
E	98.56(j)(5)	All.
E	98.56(j)(6)	All.
E	98.56(l)	All.
H	98.86(b)(11)	All.
H	98.86(b)(13)	Name of raw kiln feed or raw material.
O	98.156(d)(2)	All.
O	98.156(d)(3)	All.

Subpart	Rule citation (40 CFR part 98)	Specific data elements for which reporting date is March 31, 2015 (''All'' means all data elements in the cited paragraph are not required to be reported until March 31, 2015)
O	98.156(d)(4)	All.
Q	98.176(f)(1)	All.
W	98.236(c)(1)(i)	All.
W	98.236(c)(1)(ii)	All.
W	98.236(c)(1)(iii)	All.
W	98.236(c)(2)(i)	All.
W	98.236(c)(3)(i)	All.
W	98.236(c)(3)(ii)	Only Calculation Methodology 2.
W	98.236(c)(3)(iii)	All.
W	98.236(c)(3)(iv)	All.
W	98.236(c)(4)(i)(A)	All.
W	98.236(c)(4)(i)(B)	All.
W	98.236(c)(4)(i)(C)	All.
W	98.236(c)(4)(i)(D)	All.
W	98.236(c)(4)(i)(E)	All.
W	98.236(c)(4)(i)(F)	All.
W	98.236(c)(4)(i)(G)	All.
W	98.236(c)(4)(i)(H)	All.
W	98.236(c)(4)(ii)(A)	All.
W	98.236(c)(5)(i)(D)	All.
W	98.236(c)(5)(ii)(C)	All.
W	98.236(c)(6)(i)(B)	All.[b]
W	98.236(c)(6)(i)(D)	All.[b]
W	98.236(c)(6)(i)(E)	All.[b]
W	98.236(c)(6)(i)(F)	All.[b]
W	98.236(c)(6)(i)(G)	Only the amount of natural gas required.
W	98.236(c)(6)(i)(H)	Only the amount of natural gas required.
W	98.236(c)(6)(ii)(A)	All.
W	98.236(c)(6)(ii)(B)	All.
W	98.236(c)(7)(i)(A)	Only for Equation W–14A.
W	98.236(c)(8)(i)(F)	All.[b]
W	98.236(c)(8)(i)(K)	All.
W	98.236(c)(8)(ii)(A)	All.[b]
W	98.236(c)(8)(ii)(H)	All.
W	98.236(c)(8)(iii)(A)	All.
W	98.236(c)(8)(iii)(B)	All.
W	98.236(c)(8)(iii)(G)	All.
W	98.236(c)(12)(ii)	All.
W	98.236(c)(12)(v)	All.
W	98.236(c)(13)(i)(E)	All.
W	98.236(c)(13)(i)(F)	All.
W	98.236(c)(13)(ii)(A)	All.
W	98.236(c)(13)(ii)(B)	All.
W	98.236(c)(13)(iii)(A)	All.
W	98.236(c)(13)(iii)(B)	All.
W	98.236(c)(13)(v)(A)	All.
W	98.236(c)(14)(i)(B)	All.
W	98.236(c)(14)(ii)(A)	All.
W	98.236(c)(14)(ii)(B)	All.
W	98.236(c)(14)(iii)(A)	All.
W	98.236(c)(14)(iii)(B)	All.
W	98.236(c)(14)(v)(A)	All.
W	98.236(c)(15)(ii)(A)	All.
W	98.236(c)(15)(ii)(B)	All.
W	98.236(c)(16)(viii)	All.
W	98.236(c)(16)(ix)	All.
W	98.236(c)(16)(x)	All.
W	98.236(c)(16)(xi)	All.
W	98.236(c)(16)(xii)	All.
W	98.236(c)(16)(xiii)	All.
W	98.236(c)(16)(xiv)	All.
W	98.236(c)(16)(xv)	All.
W	98.236(c)(16)(xvi)	All.
W	98.236(c)(17)(ii)	All.
W	98.236(c)(17)(iii)	All.
W	98.236(c)(17)(iv)	All.
W	98.236(c)(18)(i)	All.
W	98.236(c)(18)(ii)	All.
W	98.236(c)(19)(iv)	All.
W	98.236(c)(19)(vii)	All.
Y	98.256(h)(5)(i)	Only value of the correction.
Y	98.256(k)(4)	Only mole fraction of methane in coking gas.

Subpart	Rule citation (40 CFR part 98)	Specific data elements for which reporting date is March 31, 2015 (''All'' means all data elements in the cited paragraph are not required to be reported until March 31, 2015)
Y	98.256(n)(3)	All (if used in Equation Y–21 to calculate emissions from equipment leaks).
Y	98.256(o)(4)(vi)	Only tank-specific methane composition data and gas generation rate data.
AA	98.276(e)	All.
CC	98.296(b)(10)(i)	All.
CC	98.296(b)(10)(ii)	All.
CC	98.296(b)(10)(iii)	All.
CC	98.296(b)(10)(iv)	All.
CC	98.296(b)(10)(v)	All.
CC	98.296(b)(10)(vi)	All.
II	98.356(d)(2)	All (if conducting weekly sampling).
II	98.356(d)(3)	All (if conducting weekly sampling).
II	98.356(d)(4)	Only weekly average temperature (if conducting weekly sampling).
II	98.356(d)(5)	Only weekly average moisture content (if conducting weekly sampling).
II	98.356(d)(6)	Only weekly average pressure (if conducting weekly sampling).

[a] Required to be reported only by: (1) Stationary fuel combustion sources (*e.g.,* individual units, aggregations of units, common pipes, or common stacks) subject to subpart C of this part that contain at least one combustion unit connected to a fuel-fired electric generator owned or operated by an entity that is subject to regulation of customer billing rates by the PUC (excluding generators connected to combustion units subject to 40 CFR part 98, subpart D) and that are located at a facility for which the sum of the nameplate capacities for all such electric generators is greater than or equal to 1 megawatt electric output; and (2) stationary fuel combustion sources (*e.g.,* individual units, aggregations of units, common pipes, or common stacks) subject to subpart C of this part that do not meet the criteria in (1) of this footnote that elect to report these data elements, as provided in §98.36(a), for reporting year 2014.

[b] This rule citation provides an option to delay reporting of this data element for certain wildcat wells and/or delineation wells.

[79 FR 73783, Dec. 11, 2014]

Subpart B [Reserved]

Subpart C—General Stationary Fuel Combustion Sources

§98.30 Definition of the source category.

(a) Stationary fuel combustion sources are devices that combust solid, liquid, or gaseous fuel, generally for the purposes of producing electricity, generating steam, or providing useful heat or energy for industrial, commercial, or institutional use, or reducing the volume of waste by removing combustible matter. Stationary fuel combustion sources include, but are not limited to, boilers, simple and combined-cycle combustion turbines, engines, incinerators, and process heaters.

(b) This source category does not include:

(1) Portable equipment, as defined in §98.6.

(2) Emergency generators and emergency equipment, as defined in §98.6.

(3) Irrigation pumps at agricultural operations.

(4) Flares, unless otherwise required by provisions of another subpart of this part to use methodologies in this subpart.

(5) Electricity generating units that are subject to subpart D of this part.

(c) For a unit that combusts hazardous waste (as defined in §261.3 of this chapter), reporting of GHG emissions is not required unless either of the following conditions apply:

(1) Continuous emission monitors (CEMS) are used to quantify CO_2 mass emissions.

(2) Any fuel listed in Table C–1 of this subpart is also combusted in the unit. In this case, report GHG emissions from combustion of all fuels listed in Table C–1 of this subpart.

(d) You are not required to report GHG emissions from pilot lights. A pilot light is a small auxiliary flame that ignites the burner of a combustion device when the control valve opens.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79140, Dec. 17, 2010]

§98.31 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains one or more stationary fuel combustion sources and the facility meets the applicability requirements of either §§98.2(a)(1), 98.2(a)(2), or 98.2(a)(3).

§ 98.32 GHGs to report.

You must report CO_2, CH_4, and N_2O mass emissions from each stationary fuel combustion unit, except as otherwise indicated in this subpart.

[75 FR 79140, Dec. 17, 2010]

§ 98.33 Calculating GHG emissions.

You must calculate CO_2 emissions according to paragraph (a) of this section, and calculate CH_4 and N_2O emissions according to paragraph (c) of this section.

(a) *CO_2 emissions from fuel combustion.* Calculate CO_2 mass emissions by using one of the four calculation methodologies in paragraphs (a)(1) through (a)(4) of this section, subject to the applicable conditions, requirements, and restrictions set forth in paragraph (b) of this section. Alternatively, for units that meet the conditions of paragraph (a)(5) of this section, you may use CO_2 mass emissions calculation methods from part 75 of this chapter, as described in paragraph (a)(5) of this section. For units that combust both biomass and fossil fuels, you must calculate and report CO_2 emissions from the combustion of biomass separately using the methods in paragraph (e) of this section, except as otherwise provided in paragraphs (a)(5)(iv) and (e) of this section and in § 98.36(d).

(1) *Tier 1 Calculation Methodology.* Calculate the annual CO_2 mass emissions for each type of fuel by using Equation C–1, C–1a, or C–1b of this section (as applicable).

(i) Use Equation C–1 except when natural gas billing records are used to quantify fuel usage and gas consumption is expressed in units of therms or million Btu. In that case, use Equation C–1a or C–1b, as applicable.

$$CO_2 = 1x10^{-3} * Fuel * HHV * EF \qquad \text{(Eq. C-1)}$$

where:

CO_2 = Annual CO_2 mass emissions for the specific fuel type (metric tons).

Fuel = Mass or volume of fuel combusted per year, from company records as defined in § 98.6 (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel).

HHV = Default high heat value of the fuel, from Table C–1 of this subpart (mmBtu per mass or mmBtu per volume, as applicable).

EF = Fuel-specific default CO_2 emission factor, from Table C–1 of this subpart (kg CO_2/mmBtu).

1×10^{-3} = Conversion factor from kilograms to metric tons.

(ii) If natural gas consumption is obtained from billing records and fuel usage is expressed in therms, use Equation C–1a.

$$CO_2 = 1x10^{-3}\left[0.1 * Gas * EF\right] \qquad \text{(Eq. C-1a)}$$

where:

CO_2 = Annual CO_2 mass emissions from natural gas combustion (metric tons).

Gas = Annual natural gas usage, from billing records (therms).

EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C–1 of this subpart (kg CO_2/mmBtu).

0.1 = Conversion factor from therms to mmBtu

1×10^{-3} = Conversion factor from kilograms to metric tons.

(iii) If natural gas consumption is obtained from billing records and fuel usage is expressed in mmBtu, use Equation C–1b.

$$CO_2 = 1x10^{-3} * Gas * EF \qquad \text{(Eq. C-1b)}$$

where:

CO_2 = Annual CO_2 mass emissions from natural gas combustion (metric tons).

Gas = Annual natural gas usage, from billing records (mmBtu).

EF = Fuel-specific default CO_2 emission factor for natural gas, from Table C–1 of this subpart (kg CO_2/mmBtu).

1×10^{-3} = Conversion factor from kilograms to metric tons.

(2) *Tier 2 Calculation Methodology.* Calculate the annual CO_2 mass emissions for each type of fuel by using either Equation C2a or C2c of this section, as appropriate.

(i) Equation C–2a of this section applies to any type of fuel listed in Table C–1 of the subpart, except for municipal solid waste (MSW). For MSW combustion, use Equation C–2c of this section.

$$CO_2 = 1\,x\,10^{-3} * Fuel * HHV * EF \qquad \text{(Eq. C-2a)}$$

Where:

CO_2 = Annual CO_2 mass emissions for a specific fuel type (metric tons).

Fuel = Mass or volume of the fuel combusted during the year, from company records as defined in §98.6 (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel).

HHV = Annual average high heat value of the fuel (mmBtu per mass or volume). The average HHV shall be calculated according to the requirements of paragraph (a)(2)(ii) of this section.

EF = Fuel-specific default CO_2 emission factor, from Table C–1 of this subpart (kg CO_2/mmBtu).

1×10^{-3} = Conversion factor from kilograms to metric tons.

(ii) The minimum required sampling frequency for determining the annual average HHV (*e.g.*, monthly, quarterly, semi-annually, or by lot) is specified in §98.34. The method for computing the annual average HHV is a function of unit size and how frequently you perform or receive from the fuel supplier the results of fuel sampling for HHV. The method is specified in paragraph (a)(2)(ii)(A) or (a)(2)(ii)(B) of this section, as applicable.

(A) If the results of fuel sampling are received monthly or more frequently, then for each unit with a maximum rated heat input capacity greater than or equal to 100 mmBtu/hr (or for a group of units that includes at least one unit of that size), the annual average HHV shall be calculated using Equation C–2b of this section. If multiple HHV determinations are made in any month, average the values for the month arithmetically.

$$(HHV)_{annual} = \frac{\sum_{i=1}^{n} (HHV)_i * (Fuel)_i}{\sum_{i=1}^{n} (Fuel)_i} \qquad \text{(Eq. C-2b)}$$

Where:

$(HHV)_{annual}$ = Weighted annual average high heat value of the fuel (mmBtu per mass or volume).

$(HHV)_I$ = Measured high heat value of the fuel, for month ''i'' (which may be the arithmetic average of multiple determinations), or, if applicable, an appropriate substitute data value (mmBtu per mass or volume).

$(Fuel)_I$ = Mass or volume of the fuel combusted during month ''i,'' from company records (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel).

n = Number of months in the year that the fuel is burned in the unit.

(B) If the results of fuel sampling are received less frequently than monthly, or, for a unit with a maximum rated heat input capacity less than 100 mmBtu/hr (or a group of such units) regardless of the HHV sampling frequency, the annual average HHV shall either be computed according to paragraph (a)(2)(ii)(A) of this section or as the arithmetic average HHV for all values for the year (including valid samples and substitute data values under § 98.35).

(iii) For units that combust municipal solid waste (MSW) and that produce steam, use Equation C–2c of this section. Equation C–2c of this section may also be used for any other solid fuel listed in Table C–1 of this subpart provided that steam is generated by the unit.

$$CO_2 = 1 \text{ x } 10^{-3} \text{ Steam} * B * EF \qquad \text{(Eq. C-2c)}$$

Where:

CO_2 = Annual CO_2 mass emissions from MSW or solid fuel combustion (metric tons).

Steam = Total mass of steam generated by MSW or solid fuel combustion during the reporting year (lb steam).

B = Ratio of the boiler's maximum rated heat input capacity to its design rated steam output capacity (mmBtu/lb steam).

EF = Fuel-specific default CO_2 emission factor, from Table C–1 of this subpart (kg CO_2/mmBtu).

1×10^{-3} = Conversion factor from kilograms to metric tons.

(3) *Tier 3 Calculation Methodology*. Calculate the annual CO_2 mass emissions for each fuel by using either Equation C3, C4, or C5 of this section, as appropriate.

(i) For a solid fuel, use Equation C–3 of this section.

$$CO_2 = \frac{44}{12} * \text{Fuel} * CC * 0.91 \qquad \text{(Eq. C-3)}$$

Where:

CO_2 = Annual CO_2 mass emissions from the combustion of the specific solid fuel (metric tons).

Fuel = Annual mass of the solid fuel combusted, from company records as defined in § 98.6 (short tons).

CC = Annual average carbon content of the solid fuel (percent by weight, expressed as a decimal fraction, e.g., 95% = 0.95). The annual average carbon content shall be determined using the same procedures as specified for HHV in paragraph (a)(2)(ii) of this section.

44/12 = Ratio of molecular weights, CO_2 to carbon.

0.91 = Conversion factor from short tons to metric tons.

(ii) For a liquid fuel, use Equation C–4 of this section.

$$CO_2 = \frac{44}{12} * \text{Fuel} * CC * 0.001 \qquad \text{(Eq. C-4)}$$

Where:

CO_2 = Annual CO_2 mass emissions from the combustion of the specific liquid fuel (metric tons).

Fuel = Annual volume of the liquid fuel combusted (gallons). The volume of fuel combusted must be measured directly, using fuel flow meters calibrated according to § 98.3(i). Fuel billing meters may be used

for this purpose. Tank drop measurements may also be used.

CC = Annual average carbon content of the liquid fuel (kg C per gallon of fuel). The annual average carbon content shall be determined using the same procedures as specified for HHV in paragraph (a)(2)(ii) of this section.

44/12 = Ratio of molecular weights, CO_2 to carbon.

0.001 = Conversion factor from kg to metric tons.

(iii) For a gaseous fuel, use Equation C–5 of this section.

$$CO_2 = \frac{44}{12} * Fuel * CC * \frac{MW}{MVC} * 0.001 \qquad \text{(Eq. C-5)}$$

Where:

CO_2 = Annual CO_2 mass emissions from combustion of the specific gaseous fuel (metric tons).

Fuel = Annual volume of the gaseous fuel combusted (scf). The volume of fuel combusted must be measured directly, using fuel flow meters calibrated according to §98.3(i). Fuel billing meters may be used for this purpose.

CC = Annual average carbon content of the gaseous fuel (kg C per kg of fuel). The annual average carbon content shall be determined using the same procedures as specified for HHV in paragraph (a)(2)(ii) of this section.

MW = Annual average molecular weight of the gaseous fuel (kg/kg-mole). The annual average molecular weight shall be determined using the same procedures as specified for HHV in paragraph (a)(2)(ii) of this section.

MVC = Molar volume conversion factor at standard conditions, as defined in §98.6. Use 849.5 scf per kg mole if you select 68 °F as standard temperature and 836.6 scf per kg mole if you select 60 °F as standard temperature.

44/12 = Ratio of molecular weights, CO_2 to carbon.

0.001 = Conversion factor from kg to metric tons.

(iv) Fuel flow meters that measure mass flow rates may be used for liquid or gaseous fuels, provided that the fuel density is used to convert the readings to volumetric flow rates. The density shall be measured at the same frequency as the carbon content. You must measure the density using one of the following appropriate methods. You may use a method published by a consensus-based standards organization, if such a method exists, or you may use industry standard practice. Consensus-based standards organizations include, but are not limited to, the following: ASTM International (100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), the American National Standards Institute (ANSI, 1819 L Street, NW., 6th floor, Washington, DC 20036, (202) 293–8020, *http://www.ansi.org*), the American Gas Association (AGA), 400 North Capitol Street, NW., 4th Floor, Washington, DC 20001, (202) 824–7000, *http://www.aga.org*), the American Society of Mechanical Engineers (ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*), the American Petroleum Institute (API, 1220 L Street, NW., Washington, DC 20005–4070, (202) 682–8000, *http://www.api.org*), and the North American Energy Standards Board (NAESB, 801 Travis Street, Suite 1675, Houston, TX 77002, (713) 356–0060, *http://www.api.org*). The method(s) used shall be documented in the GHG Monitoring Plan required under §98.3(g)(5).

(v) The following default density values may be used for fuel oil, in lieu of using the methods in paragraph (a)(3)(iv) of this section: 6.8 lb/gal for No. 1 oil; 7.2 lb/gal for No. 2 oil; 8.1 lb/gal for No. 6 oil.

(4) *Tier 4 Calculation Methodology*. Calculate the annual CO_2 mass emissions from all fuels combusted in a unit, by using quality-assured data from continuous emission monitoring systems (CEMS).

(i) This methodology requires a CO_2 concentration monitor and a stack gas volumetric flow rate monitor, except as otherwise provided in paragraph (a)(4)(iv) of this section. Hourly measurements of CO_2 concentration and stack gas flow rate are converted to CO_2 mass emission rates in metric tons per hour.

(ii) When the CO_2 concentration is measured on a wet basis, Equation C–6 of this section is used to calculate the hourly CO_2 emission rates:

$$CO_2 = 5.18\,x\,10^{-7} * C_{CO2} * Q \quad \text{(Eq. C-6)}$$

Where:

CO_2 = CO_2 mass emission rate (metric tons/hr).

C_{CO2} = Hourly average CO_2 concentration (% CO_2).

Q = Hourly average stack gas volumetric flow rate (scfh).

5.18×10^{-7} = Conversion factor (metric tons/scf/% CO_2).

(iii) If the CO_2 concentration is measured on a dry basis, a correction for the stack gas moisture content is required. You shall either continuously monitor the stack gas moisture content using a method described in §75.11(b)(2) of this chapter or use an appropriate default moisture percentage. For coal, wood, and natural gas combustion, you may use the default moisture values specified in §75.11(b)(1) of this chapter. Alternatively, for any type of fuel, you may determine an appropriate site-specific default moisture value (or values), using measurements made with EPA Method 4—Determination Of Moisture Content In Stack Gases, in appendix A–3 to part 60 of this chapter. Moisture data from the relative accuracy test audit (RATA) of a CEMS may be used for this purpose. If this option is selected, the site-specific moisture default value(s) must represent the fuel(s) or fuel blends that are combusted in the unit during normal, stable operation, and must account for any distinct difference(s) in the stack gas moisture content associated with different process operating conditions. For each site-specific default moisture percentage, at least nine Method 4 runs are required, except where the option to use moisture data from a RATA is selected, and the applicable regulation allows a single moisture determination to represent two or more RATA runs. In that case, you may base the site-specific moisture percentage on the number of moisture runs allowed by the RATA regulation. Calculate each site-specific default moisture value by taking the arithmetic average of the Method 4 runs. Each site-specific moisture default value shall be updated whenever the owner or operator believes the current value is non-representative, due to changes in unit or process operation, but in any event no less frequently than annually. Use the updated moisture value in the subsequent CO_2 emissions calculations. For each unit operating hour, a moisture correction must be applied to Equation C–6 of this section as follows:

$$CO_2^* = CO_2\left(\frac{100 - \%H_2O}{100}\right) \quad \text{(Eq. C-7)}$$

where:

CO_2* = Hourly CO_2 mass emission rate, corrected for moisture (metric tons/hr).

CO_2 = Hourly CO_2 mass emission rate from Equation C–6 of this section, uncorrected (metric tons/hr).

$\%H_2O$ = Hourly moisture percentage in the stack gas (measured or default value, as appropriate).

(iv) An oxygen (O_2) concentration monitor may be used in lieu of a CO_2 concentration monitor to determine the hourly CO_2 concentrations, in accordance with Equation F–14a or F–14b (as applicable) in appendix F to part 75 of this chapter, if the effluent gas stream monitored by the CEMS consists solely of combustion products (*i.e.*, no process CO_2 emissions or CO_2 emissions from sorbent are mixed with the combustion products) and if only fuels that are listed in Table 1 in section 3.3.5 of appendix F to part 75 of this chapter are combusted in the unit. If the O_2 monitoring option is selected, the F-factors used in Equations F–14a and F–14b shall be determined according to section 3.3.5 or section 3.3.6 of appendix F to part 75 of this chapter, as applicable. If Equation F–14b is used, the hourly moisture percentage in the

stack gas shall be determined in accordance with paragraph (a)(4)(iii) of this section.

(v) Each hourly CO_2 mass emission rate from Equation C–6 or C–7 of this section is multiplied by the operating time to convert it from metric tons per hour to metric tons. The operating time is the fraction of the hour during which fuel is combusted (e.g., the unit operating time is 1.0 if the unit operates for the whole hour and is 0.5 if the unit operates for 30 minutes in the hour). For common stack configurations, the operating time is the fraction of the hour during which effluent gases flow through the common stack.

(vi) The hourly CO_2 mass emissions are then summed over each calendar quarter and the quarterly totals are summed to determine the annual CO_2 mass emissions.

(vii) If both biomass and fossil fuel are combusted during the year, determine and report the biogenic CO_2 mass emissions separately, as described in paragraph (e) of this section.

(viii) If a portion of the flue gases generated by a unit subject to Tier 4 (*e.g.*, a slip stream) is continuously diverted from the main flue gas exhaust system for the purpose of heat recovery or some other similar process, and then exhausts through a stack that is not equipped with the continuous emission monitors to measure CO_2 mass emissions, CO_2 emissions shall be determined as follows:

(A) At least once a year, use EPA Methods 2 and 3A, and (if necessary) Method 4 in appendices A–2 and A–3 to part 60 of this chapter to perform emissions testing at a set point that best represents normal, stable process operating conditions. A minimum of three one-hour Method 3A tests are required, to determine the CO_2 concentration. A Method 2 test shall be performed during each Method 3A run, to determine the stack gas volumetric flow rate. If moisture correction is necessary, a Method 4 run shall also be performed during each Method 3A run. Important parametric information related to the stack gas flow rate (*e.g.*, damper positions, fan settings, *etc.*) shall also be recorded during the test.

(B) Calculate a CO_2 mass emission rate (in metric tons/hr) from the stack test data, using a version of Equation C–6 in paragraph (a)(4)(ii) of this section, modified as follows. In the Equation C–6 nomenclature, replace the words ''Hourly average'' in the definitions of ''C_{CO2}'' and ''Q'' with the words ''3-run average''. Substitute the arithmetic average values of CO_2 concentration and stack gas flow rate from the emission testing into modified Equation C–6. If CO_2 is measured on a dry basis, a moisture correction of the calculated CO_2 mass emission rate is required. Use Equation C–7 in paragraph (a)(4)(ii) of this section to make this correction; replace the word ''Hourly'' with the words ''3-run average'' in the equation nomenclature.

(C) The results of each annual stack test shall be used in the GHG emissions calculations for the year of the test.

(D) If, for the majority of the operating hours during the year, the diverted stream is withdrawn at a steady rate at or near the tested set point (as evidenced by fan and damper settings and/or other parameters), you may use the calculated CO_2 mass emission rate from paragraph (a)(4)(viii)(B) of this section to estimate the CO_2 mass emissions for all operating hours in which flue gas is diverted from the main exhaust system. Otherwise, you must account for the variation in the flow rate of the diverted stream, as described in paragraph (c)(4)(viii)(E) of this section.

(E) If the flow rate of the diverted stream varies significantly throughout the year, except as provided below, repeat the stack test and emission rate calculation procedures described in paragraphs (c)(4)(viii)(A) and (c)(4)(viii)(B) of this section at a minimum of two more set points across the range of typical operating conditions to develop a correlation between CO_2 mass emission rate and the parametric data. If additional testing is not feasible, use the following approach to develop the necessary correlation. Assume that the average CO_2 concentration obtained in the annual stack test is the same at all operating set points. Then, beginning with the measured flow rate from the stack test and the associated parametric data, perform an engineering analysis to estimate the

stack gas flow rate at two or more additional set points. Calculate the CO_2 mass emission rate at each set point.

(F) Calculate the annual CO_2 mass emissions for the diverted stream as follows. For a steady-state process, multiply the number of hours in which flue gas was diverted from the main exhaust system by the CO_2 mass emission rate from the stack test. Otherwise, using the best available information and engineering judgment, apply the most representative CO_2 mass emission rate from the correlation in paragraph (c)(4)(viii)(E) of this section to determine the CO_2 mass emissions for each hour in which flue gas was diverted, and sum the results. To simplify the calculations, you may count partial operating hours as full hours.

(G) Finally, add the CO_2 mass emissions from paragraph(c)(4)(viii)(F) of this section to the annual CO_2 mass emissions measured by the CEMS at the main stack. Report this sum as the total annual CO_2 mass emissions for the unit.

(H) The exact method and procedures used to estimate the CO_2 mass emissions for the diverted portion of the flue gas exhaust stream shall be documented in the Monitoring Plan required under § 98.3(g)(5).

(5) *Alternative methods for certain units subject to Part 75 of this chapter*. Certain units that are not subject to subpart D of this part and that report data to EPA according to part 75 of this chapter may qualify to use the alternative methods in this paragraph (a)(5), in lieu of using any of the four calculation methodology tiers.

(i) For a unit that combusts only natural gas and/or fuel oil, is not subject to subpart D of this part, monitors and reports heat input data year-round according to appendix D to part 75 of this chapter, but is not required by the applicable part 75 program to report CO_2 mass emissions data, calculate the annual CO_2 mass emissions for the purposes of this part as follows:

(A) Use the hourly heat input data from appendix D to part 75 of this chapter, together with Equation G–4 in appendix G to part 75 of this chapter to determine the hourly CO_2 mass emission rates, in units of tons/hr;

(B) Use Equations F–12 and F–13 in appendix F to part 75 of this chapter to calculate the quarterly and cumulative annual CO_2 mass emissions, respectively, in units of short tons; and

(C) Divide the cumulative annual CO_2 mass emissions value by 1.1 to convert it to metric tons.

(ii) For a unit that combusts only natural gas and/or fuel oil, is not subject to subpart D of this part, monitors and reports heat input data year-round according to § 75.19 of this chapter but is not required by the applicable part 75 program to report CO_2 mass emissions data, calculate the annual CO_2 mass emissions for the purposes of this part as follows:

(A) Calculate the hourly CO_2 mass emissions, in units of short tons, using Equation LM–11 in § 75.19(c)(4)(iii) of this chapter.

(B) Sum the hourly CO_2 mass emissions values over the entire reporting year to obtain the cumulative annual CO_2 mass emissions, in units of short tons.

(C) Divide the cumulative annual CO_2 mass emissions value by 1.1 to convert it to metric tons.

(iii) For a unit that is not subject to subpart D of this part, uses flow rate and CO_2 (or O_2) CEMS to report heat input data year-round according to part 75 of this chapter, but is not required by the applicable part 75 program to report CO_2 mass emissions data, calculate the annual CO_2 mass emissions as follows:

(A) Use Equation F–11 or F–2 (as applicable) in appendix F to part 75 of this chapter to calculate the hourly CO_2 mass emission rates from the CEMS data. If an O_2 monitor is used, convert the hourly average O_2 readings to CO_2 using Equation F–14a or F–14b in appendix F to part 75 of this chapter (as applicable), before applying Equation F–11 or F–2.

(B) Use Equations F–12 and F–13 in appendix F to part 75 of this chapter to calculate the quarterly and cumulative annual CO_2 mass emissions, respectively, in units of short tons.

(C) Divide the cumulative annual CO_2 mass emissions value by 1.1 to convert it to metric tons.

(iv) For units that qualify to use the alternative CO_2 emissions calculation

methods in paragraphs (a)(5)(i) through (a)(5)(iii) of this section, if both biomass and fossil fuel are combusted during the year, separate calculation and reporting of the biogenic CO_2 mass emissions (as described in paragraph (e) of this section) is optional, only for the 2010 reporting year, as provided in §98.3(c)(12).

(b) *Use of the four tiers.* Use of the four tiers of CO_2 emissions calculation methodologies described in paragraph (a) of this section is subject to the following conditions, requirements, and restrictions:

(1) The Tier 1 Calculation Methodology:

(i) May be used for any fuel listed in Table C–1 of this subpart that is combusted in a unit with a maximum rated heat input capacity of 250 mmBtu/hr or less.

(ii) May be used for MSW in a unit of any size that does not produce steam, if the use of Tier 4 is not required.

(iii) May be used for solid, gaseous, or liquid biomass fuels in a unit of any size provided that the fuel is listed in Table C–1 of this subpart.

(iv) May not be used if you routinely perform fuel sampling and analysis for the fuel high heat value (HHV) or routinely receive the results of HHV sampling and analysis from the fuel supplier at the minimum frequency specified in §98.34(a), or at a greater frequency. In such cases, Tier 2 shall be used. This restriction does not apply to paragraphs (b)(1)(ii), (b)(1)(v), (b)(1)(vi), and (b)(1)(vii) of this section.

(v) May be used for natural gas combustion in a unit of any size, in cases where the annual natural gas consumption is obtained from fuel billing records in units of therms or mmBtu.

(vi) May be used for MSW combustion in a small, batch incinerator that burns no more than 1,000 tons per year of MSW.

(vii) May be used for the combustion of MSW and/or tires in a unit, provided that no more than 10 percent of the unit's annual heat input is derived from those fuels, combined. Notwithstanding this requirement, if a unit combusts both MSW and tires and the reporter elects not to separately calculate and report biogenic CO_2 emissions from the combustion of tires, Tier 1 may be used for the MSW combustion, provided that no more than 10 percent of the unit's annual heat input is derived from MSW.

(viii) May be used for the combustion of a fuel listed in Table C–1 if the fuel is combusted in a unit with a maximum rated heat input capacity greater than 250 mmBtu/hr (or, pursuant to §98.36(c)(3), in a group of units served by a common supply pipe, having at least one unit with a maximum rated heat input capacity greater than 250 mmBtu/hr), provided that both of the following conditions apply:

(A) The use of Tier 4 is not required.

(B) The fuel provides less than 10 percent of the annual heat input to the unit, or if §98.36(c)(3) applies, to the group of units served by a common supply pipe.

(2) The Tier 2 Calculation Methodology:

(i) May be used for the combustion of any type of fuel in a unit with a maximum rated heat input capacity of 250 mmBtu/hr or less provided that the fuel is listed in Table C–1 of this subpart.

(ii) May be used in a unit with a maximum rated heat input capacity greater than 250 mmBtu/hr for the combustion of natural gas and/or distillate fuel oil.

(iii) May be used for MSW in a unit of any size that produces steam, if the use of Tier 4 is not required.

(3) The Tier 3 Calculation Methodology:

(i) May be used for a unit of any size that combusts any type of fuel listed in Table C–1 of this subpart (except for MSW), unless the use of Tier 4 is required.

(ii) Shall be used for a unit with a maximum rated heat input capacity greater than 250 mmBtu/hr that combusts any type of fuel listed in Table C–1 of this subpart (except MSW), unless either of the following conditions apply:

(A) The use of Tier 1 or 2 is permitted, as described in paragraphs (b)(1)(iii), (b)(1)(v), (b)(1)(viii), and (b)(2)(ii) of this section.

(B) The use of Tier 4 is required.

(iii) Shall be used for a fuel not listed in Table C–1 of this subpart if the fuel

is combusted in a unit with a maximum rated heat input capacity greater than 250 mmBtu/hr (or, pursuant to § 98.36(c)(3), in a group of units served by a common supply pipe, having at least one unit with a maximum rated heat input capacity greater than 250 mmBtu/hr), provided that both of the following conditions apply:

(A) The use of Tier 4 is not required.

(B) The fuel provides 10% or more of the annual heat input to the unit or, if § 98.36(c)(3) applies, to the group of units served by a common supply pipe.

(iv) Shall be used when specified in another applicable subpart of this part, regardless of unit size.

(4) The Tier 4 Calculation Methodology:

(i) May be used for a unit of any size, combusting any type of fuel. Tier 4 may also be used for any group of stationary fuel combustion units, process units, or manufacturing units that share a common stack or duct.

(ii) Shall be used if the unit meets all six of the conditions specified in paragraphs (b)(4)(ii)(A) through (b)(4)(ii)(F) of this section:

(A) The unit has a maximum rated heat input capacity greater than 250 mmBtu/hr, or if the unit combusts municipal solid waste and has a maximum rated input capacity greater than 600 tons per day of MSW.

(B) The unit combusts solid fossil fuel or MSW as the primary fuel.

(C) The unit has operated for more than 1,000 hours in any calendar year since 2005.

(D) The unit has installed CEMS that are required either by an applicable Federal or State regulation or the unit's operating permit.

(E) The installed CEMS include a gas monitor of any kind or a stack gas volumetric flow rate monitor, or both and the monitors have been certified, either in accordance with the requirements of part 75 of this chapter, part 60 of this chapter, or an applicable State continuous monitoring program.

(F) The installed gas or stack gas volumetric flow rate monitors are required, either by an applicable Federal or State regulation or by the unit's operating permit, to undergo periodic quality assurance testing in accordance with either appendix B to part 75 of this chapter, appendix F to part 60 of this chapter, or an applicable State continuous monitoring program.

(iii) Shall be used for a unit with a maximum rated heat input capacity of 250 mmBtu/hr or less and for a unit that combusts municipal solid waste with a maximum rated input capacity of 600 tons of MSW per day or less, if the unit meets all of the following three conditions:

(A) The unit has both a stack gas volumetric flow rate monitor and a CO_2 concentration monitor.

(B) The unit meets the conditions specified in paragraphs (b)(4)(ii)(B) through (b)(4)(ii)(D) of this section.

(C) The CO_2 and stack gas volumetric flow rate monitors meet the conditions specified in paragraphs (b)(4)(ii)(E) and (b)(4)(ii)(F) of this section.

(iv) May apply to common stack or duct configurations where:

(A) The combined effluent gas streams from two or more stationary fuel combustion units are vented through a monitored common stack or duct. In this case, Tier 4 shall be used if all of the conditions in paragraph (b)(4)(iv)(A)(1) of this section or if the conditions in paragraph (b)(4)(iv)(A)(2) of this section are met.

(*1*) At least one of the units meets the requirements of paragraphs (b)(4)(ii)(A) through (b)(4)(ii)(C) of this section, and the CEMS installed at the common stack (or duct) meet the requirements of paragraphs (b)(4)(ii)(D) through (b)(4)(ii)(F) of this section.

(*2*) At least one of the units and the monitors installed at the common stack or duct meet the requirements of paragraph (b)(4)(iii) of this section.

(B) The combined effluent gas streams from a process or manufacturing unit and a stationary fuel combustion unit are vented through a monitored common stack or duct. In this case, Tier 4 shall be used if the combustion unit and the monitors installed at the common stack or duct meet the applicability criteria specified in paragraph (b)(4)(iv)(A)(*1*), or (b)(4)(iv)(A)(*2*) of this section.

(C) The combined effluent gas streams from two or more manufacturing or process units are vented through a common stack or duct. In this case, if any of the units is required

by an applicable subpart of this part to use Tier 4, the CO_2 mass emissions may be monitored at each individual unit, or the combined CO_2 mass emissions may be monitored at the common stack or duct. However, if it is not feasible to monitor the individual units, the combined CO_2 mass emissions shall be monitored at the common stack or duct.

(5) The Tier 4 Calculation Methodology shall be used:

(i) Starting on January 1, 2010, for a unit that is required to report CO_2 mass emissions beginning on that date, if all of the monitors needed to measure CO_2 mass emissions have been installed and certified by that date.

(ii) No later than January 1, 2011, for a unit that is required to report CO_2 mass emissions beginning on January 1, 2010, if all of the monitors needed to measure CO_2 mass emissions have not been installed and certified by January 1, 2010. In this case, you may use Tier 2 or Tier 3 to report GHG emissions for 2010. However, if the required CEMS are certified some time in 2010, you need not wait until January 1, 2011 to begin using Tier 4. Rather, you may switch from Tier 2 or Tier 3 to Tier 4 as soon as CEMS certification testing is successfully completed. If this reporting option is chosen, you must document the change in CO_2 calculation methodology in the Monitoring Plan required under §98.3(g)(5) and in the GHG emissions report under §98.3(c). Data recorded by the CEMS during a certification test period in 2010 may be used for reporting under this part, provided that the following two conditions are met:

(A) The certification tests are passed in sequence, with no test failures.

(B) No unscheduled maintenance or repair of the CEMS is performed during the certification test period.

(iii) No later than 180 days following the date on which a change is made that triggers Tier 4 applicability under paragraph (b)(4)(ii) or (b)(4)(iii) of this section (*e.g.*, a change in the primary fuel, manner of unit operation, or installed continuous monitoring equipment).

(6) You may elect to use any applicable higher tier for one or more of the fuels combusted in a unit. For example, if a 100 mmBtu/hr unit combusts natural gas and distillate fuel oil, you may elect to use Tier 1 for natural gas and Tier 3 for the fuel oil, even though Tier 1 could have been used for both fuels. However, for units that use either the Tier 4 or the alternative calculation methodology specified in paragraph (a)(5)(iii) of this section, CO_2 emissions from the combustion of all fuels shall be based solely on CEMS measurements.

(c) *Calculation of CH_4 and N_2O emissions from stationary combustion sources.* You must calculate annual CH_4 and N_2O mass emissions only for units that are required to report CO_2 emissions using the calculation methodologies of this subpart and for only those fuels that are listed in Table C–2 of this subpart.

(1) Use Equation C–8 of this section to estimate CH_4 and N_2O emissions for any fuels for which you use the Tier 1 or Tier 3 calculation methodologies for CO_2, except when natural gas usage in units of therms or mmBtu is obtained from gas billing records. In that case, use Equation C–8a in paragraph (c)(1)(i) of this section or Equation C–8b in paragraph (c)(1)(ii) of this section (as applicable). For Equation C–8, use the same values for fuel consumption that you use for the Tier 1 or Tier 3 calculation.

$$CH_4 \text{ or } N_2O = 1 \times 10^{-3} * Fuel * HHV * EF \qquad \text{(Eq. C-8)}$$

Where:

CH_4 or N_2O = Annual CH_4 or N_2O emissions from the combustion of a particular type of fuel (metric tons).

Fuel = Mass or volume of the fuel combusted, either from company records or directly measured by a fuel flow meter, as applicable (mass or volume per year).

HHV = Default high heat value of the fuel from Table C–1 of this subpart; alternatively, for Tier 3, if actual HHV data are available for the reporting year, you

may average these data using the procedures specified in paragraph (a)(2)(ii) of this section, and use the average value in Equation C–8 (mmBtu per mass or volume).

EF = Fuel-specific default emission factor for CH_4 or N_2O, from Table C–2 of this subpart (kg CH_4 or N_2O per mmBtu).

1×10^{-3} = Conversion factor from kilograms to metric tons.

(i) Use Equation C–8a to calculate CH_4 and N_2O emissions when natural gas usage is obtained from gas billing records in units of therms.

$$CH_4 \text{ or } N_2O = 1 \text{ x } 10^{-3} * Fuel * 0.1 * EF \qquad \text{(Eq. C-8a)}$$

where:

CH_4 or N_2O = Annual CH_4 or N_2O emissions from the combustion of natural gas (metric tons).

Fuel = Annual natural gas usage, from gas billing records (therms).

EF = Fuel-specific default emission factor for CH_4 or N_2O, from Table C–2 of this subpart (kg CH_4 or N_2O per mmBtu).

0.1 = Conversion factor from therms to mmBtu

1×10^{-3} = Conversion factor from kilograms to metric tons.

(ii) Use Equation C–8b to calculate CH_4 and N_2O emissions when natural gas usage is obtained from gas billing records in units of mmBtu.

CH_4 or $N_2O = 1 \times 10^{-3} * Fuel * EF$ (Eq. C–8b)

where:

CH_4 or N_2O = Annual CH_4 or N_2O emissions from the combustion of natural gas (metric tons).

Fuel = Annual natural gas usage, from gas billing records (mmBtu).

EF = Fuel-specific default emission factor for CH_4 or N_2O, from Table C–2 of this subpart (kg CH_4 or N_2O per mmBtu).

1×10^{-3} = Conversion factor from kilograms to metric tons.

(2) Use Equation C–9a of this section to estimate CH_4 and N_2O emissions for any fuels for which you use the Tier 2 Equation C–2a of this section to estimate CO_2 emissions. Use the same values for fuel consumption and HHV that you use for the Tier 2 calculation.

$$\text{CH}_4 \text{ or N}_2\text{O} = 1 \text{ x } 10^{-3} * \text{HHV} * \text{EF} * \text{Fuel} \qquad \text{(Eq. C-9a)}$$

Where:

CH_4 or N_2O = Annual CH_4 or N_2O emissions from the combustion of a particular type of fuel (metric tons).

Fuel = Mass or volume of the fuel combusted during the reporting year.

HHV = High heat value of the fuel, averaged for all valid measurements for the reporting year (mmBtu per mass or volume).

EF = Fuel-specific default emission factor for CH_4 or N_2O, from Table C–2 of this subpart (kg CH_4 or N_2O per mmBtu).

1×10^{-3} = Conversion factor from kilograms to metric tons.

(3) Use Equation C–9b of this section to estimate CH_4 and N_2O emissions for any fuels for which you use Equation C–2c of this section to calculate the CO_2 emissions. Use the same values for steam generation and the ratio ''B'' that you use for Equation C–2c.

$$\text{CH}_4 \text{ or N}_2\text{O} = 1 \text{ x } 10^{-3} \text{ Steam} * \text{B} * \text{EF} \qquad \text{(Eq. C-9b)}$$

Where:

CH_4 or N_2O = Annual CH_4 or N_2O emissions from the combustion of a solid fuel (metric tons).

Steam = Total mass of steam generated by solid fuel combustion during the reporting year (lb steam).
B = Ratio of the boiler's maximum rated heat input capacity to its design rated steam output (mmBtu/lb steam).
EF = Fuel-specific emission factor for CH_4 or N_2O, from Table C–2 of this subpart (kg CH_4 or N_2O per mmBtu).
1×10^{-3} = Conversion factor from kilograms to metric tons.

(4) Use Equation C–10 of this section for: units subject to subpart D of this part; units that qualify for and elect to use the alternative CO_2 mass emissions calculation methodologies described in paragraph (a)(5) of this section; and units that use the Tier 4 Calculation Methodology.

$$CH_4 \text{ or } N_2O = 0.001 * (HI)_A * EF \qquad \text{(Eq. C-10)}$$

Where:
CH_4 or N_2O = Annual CH_4 or N_2O emissions from the combustion of a particular type of fuel (metric tons).
$(HI)_A$ = Cumulative annual heat input from combustion of the fuel (mmBtu).
EF = Fuel-specific emission factor for CH_4 or N_2O, from Table C–2 of this section (kg CH_4 or N_2O per mmBtu).
0.001 = Conversion factor from kg to metric tons.

(i) If only one type of fuel listed in Table C–2 of this subpart is combusted during the reporting year, substitute the cumulative annual heat input from combustion of the fuel into Equation C–10 of this section to calculate the annual CH_4 or N_2O emissions. For units in the Acid Rain Program and units that report heat input data to EPA year-round according to part 75 of this chapter, obtain the cumulative annual heat input directly from the electronic data reports required under §75.64 of this chapter. For Tier 4 units, use the best available information, as described in paragraph (c)(4)(ii)(C) of this section, to estimate the cumulative annual heat input $(HI)_A$.

(ii) If more than one type of fuel listed in Table C–2 of this subpart is combusted during the reporting year, use Equation C–10 of this section separately for each type of fuel, except as provided in paragraph (c)(4)(ii)(B) of this section. Determine the appropriate values of $(HI)_A$ as follows:

(A) For units in the Acid Rain Program and other units that report heat input data to EPA year-round according to part 75 of this chapter, obtain $(HI)_A$ for each type of fuel from the electronic data reports required under §75.64 of this chapter, except as otherwise provided in paragraphs (c)(4)(ii)(B) and (c)(4)(ii)(D) of this section.

(B) For a unit that uses CEMS to monitor hourly heat input according to part 75 of this chapter, the value of $(HI)_A$ obtained from the electronic data reports under §75.64 of this chapter may be attributed exclusively to the fuel with the highest F-factor, when the reporting option in 3.3.6.5 of appendix F to part 75 of this chapter is selected and implemented.

(C) For Tier 4 units, use the best available information (*e.g.*, fuel feed rate measurements, fuel heating values, engineering analysis) to estimate the value of $(HI)_A$ for each type of fuel. Instrumentation used to make these estimates is not subject to the calibration requirements of §98.3(i) or to the QA requirements of §98.34.

(D) Units in the Acid Rain Program and other units that report heat input data to EPA year-round according to part 75 of this chapter may use the best available information described in paragraph (c)(4)(ii)(C) of this section, to estimate $(HI)_A$ for each fuel type, whenever fuel-specific heat input values cannot be directly obtained from the electronic data reports under §75.64 of this chapter.

(5) When multiple fuels are combusted during the reporting year, sum the fuel-specific results from Equations C–8, C–8a, C–8b, C–9a, C–9b, or C–10 of this section (as applicable) to obtain the total annual CH_4 and N_2O emissions, in metric tons.

(6) Calculate the annual CH_4 and N_2O mass emissions from the combustion of blended fuels as follows:

(i) If the mass or volume of each component fuel in the blend is measured before the fuels are mixed and combusted, calculate and report CH_4 and N_2O emissions separately for each component fuel, using the applicable procedures in this paragraph (c).

(ii) If the mass or volume of each component fuel in the blend is not measured before the fuels are mixed and combusted, a reasonable estimate of the percentage composition of the blend, based on best available information, is required. Perform the following calculations for each component fuel ''i'' that is listed in Table C–2:

(A) Multiply $(\%\ Fuel)_i$, the estimated mass or volume percentage (decimal fraction) of component fuel ''i'', by the total annual mass or volume of the blended fuel combusted during the reporting year, to obtain an estimate of the annual consumption of component ''i'';

(B) Multiply the result from paragraph (c)(6)(ii)(A) of this section by the HHV of the fuel (default value or, if available, the measured annual average value), to obtain an estimate of the annual heat input from component ''i'';

(C) Calculate the annual CH_4 and N_2O emissions from component ''i'', using Equation C–8, C–8a, C–8b, C–9a, or C–10 of this section, as applicable;

(D) Sum the annual CH_4 emissions across all component fuels to obtain the annual CH_4 emissions for the blend. Similarly sum the annual N_2O emissions across all component fuels to obtain the annual N_2O emissions for the blend. Report these annual emissions totals.

(d) *Calculation of CO_2 from sorbent.* (1) When a unit is a fluidized bed boiler, is equipped with a wet flue gas desulfurization system, or uses other acid gas emission controls with sorbent injection to remove acid gases, if the chemical reaction between the acid gas and the sorbent produces CO_2 emissions, use Equation C–11 of this section to calculate the CO_2 emissions from the sorbent, except when those CO_2 emissions are monitored by CEMS. When a sorbent other than $CaCO_3$ is used, determine site-specific values of R and MW_S.

$$CO_2 = 0.91 * S * R * \left(\frac{MW_{CO2}}{MW_S} \right) \qquad \text{(Eq. C-11)}$$

Where:

CO_2 = CO_2 emitted from sorbent for the reporting year (metric tons).

S = Limestone or other sorbent used in the reporting year, from company records (short tons).

R = The number of moles of CO_2 released upon capture of one mole of the acid gas species being removed (R = 1.00 when the sorbent is $CaCO_3$ and the targeted acid gas species is SO_2).

MW_{CO2} = Molecular weight of carbon dioxide (44).

MW_S = Molecular weight of sorbent (100 if calcium carbonate).

0.91 = Conversion factor from short tons to metric tons.

(2) The total annual CO_2 mass emissions reported for the unit shall include the CO_2 emissions from the combustion process and the CO_2 emissions from the sorbent.

(e) *Biogenic CO_2 emissions from combustion of biomass with other fuels.* Use the applicable procedures of this paragraph (e) to estimate biogenic CO_2 emissions from units that combust a combination of biomass and fossil fuels (*i.e.*, either co-fired or blended fuels). Separate reporting of biogenic CO_2 emissions from the combined combustion of biomass and fossil fuels is required for those biomass fuels listed in Table C–1 of this section and for municipal solid waste. In addition, when a biomass fuel that is not listed in Table C–1 is combusted in a unit that has a maximum rated heat input greater than 250 mmBtu/hr, if the biomass fuel accounts for 10% or more of the annual heat input to the unit, and if the unit does not use CEMS to quantify its annual CO_2 mass emissions, then, pursuant to § 98.33(b)(3)(iii), Tier 3 must be used to determine the

carbon content of the biomass fuel and to calculate the biogenic CO_2 emissions from combustion of the fuel. Notwithstanding these requirements, in accordance with §98.3(c)(12), separate reporting of biogenic CO_2 emissions is optional for the 2010 reporting year for units subject to subpart D of this part and for units that use the CO_2 mass emissions calculation methodologies in part 75 of this chapter, pursuant to paragraph (a)(5) of this section. However, if the owner or operator opts to report biogenic CO_2 emissions separately for these units, the appropriate method(s) in this paragraph (e) shall be used. Separate reporting of biogenic CO_2 emissions from the combustion of tires is also optional, but may be reported by following the provisions of paragraph (e)(3) of this section.

(1) You may use Equation C–1 of this subpart to calculate the annual CO_2 mass emissions from the combustion of the biomass fuels listed in Table C–1 of this subpart (except MSW and tires), in a unit of any size, including units equipped with a CO_2 CEMS, except when the use of Tier 2 is required as specified in paragraph (b)(1)(iv) of this section. Determine the quantity of biomass combusted using one of the following procedures in this paragraph (e)(1), as appropriate, and document the selected procedures in the Monitoring Plan under §98.3(g):

(i) Company records.

(ii) The procedures in paragraph (e)(4) of this section.

(iii) The best available information for premixed fuels that contain biomass and fossil fuels (*e.g.*, liquid fuel mixtures containing biodiesel).

(2) You may use the procedures of this paragraph if the following three conditions are met: First, a CO_2 CEMS (or a surrogate O_2 monitor) and a stack gas flow rate monitor are used to determine the annual CO_2 mass emissions (either according to part 75 of this chapter, the Tier 4 Calculation Methodology, or the alternative calculation methodology specified in paragraph (a)(5)(iii) of this section); second, neither MSW nor tires is combusted in the unit during the reporting year; and third, the CO_2 emissions consist solely of combustion products (*i.e.*, no process or sorbent emissions included).

(i) For each operating hour, use Equation C–12 of this section to determine the volume of CO_2 emitted.

$$V_{CO2h} = \frac{(\%CO_2)_h}{100} * Q_h * t_h \qquad \text{(Eq. C-12)}$$

Where:

V_{CO2h} = Hourly volume of CO_2 emitted (scf).

$(\%CO_2)_h$ = Hourly average CO_2 concentration, measured by the CO_2 concentration monitor, or, if applicable, calculated from the hourly average O_2 concentration ($\%CO_2$).

Q_h = Hourly average stack gas volumetric flow rate, measured by the stack gas volumetric flow rate monitor (scfh).

t_h = Source operating time (decimal fraction of the hour during which the source combusts fuel, i.e., 1.0 for a full operating hour, 0.5 for 30 minutes of operation, etc.).

100 = Conversion factor from percent to a decimal fraction.

(ii) Sum all of the hourly V_{CO2h} values for the reporting year, to obtain V_{total}, the total annual volume of CO_2 emitted.

(iii) Calculate the annual volume of CO_2 emitted from fossil fuel combustion using Equation C–13 of this section. If two or more types of fossil fuel are combusted during the year, perform a separate calculation with Equation C–13 of this section for each fuel and sum the results.

$$V_{ff} = \frac{\text{Fuel} * F_c * \text{HHV}}{10^6} \qquad \text{(Eq. C-13)}$$

Where:

V_{ff} = Annual volume of CO_2 emitted from combustion of a particular fossil fuel (scf).

Fuel = Total quantity of the fossil fuel combusted in the reporting year, from company records, as defined in §98.6 (lb for

solid fuel, gallons for liquid fuel, and scf for gaseous fuel).

F_c = Fuel-specific carbon based F-factor, either a default value from Table 1 in section 3.3.5 of appendix F to part 75 of this chapter, or a site-specific value determined under section 3.3.6 of appendix F to part 75 (scf CO_2/mmBtu).

HHV = High heat value of the fossil fuel, from fuel sampling and analysis (annual average value in Btu/lb for solid fuel, Btu/gal for liquid fuel and Btu/scf for gaseous fuel, sampled as specified (e.g., monthly, quarterly, semi-annually, or by lot) in § 98.34(a)(2)). The average HHV shall be calculated according to the requirements of paragraph (a)(2)(ii) of this section.

10^6 = Conversion factor, Btu per mmBtu.

(iv) Subtract V_{ff} from V_{total} to obtain V_{bio}, the annual volume of CO_2 from the combustion of biomass.

(v) Calculate the biogenic percentage of the annual CO_2 emissions,expressed as a decimal fraction, using Equation C–14 of this section:

$$\%\ Biogenic = \frac{V_{bio}}{V_{total}} \qquad \text{(Eq. C-14)}$$

(vi) Calculate the annual biogenic CO_2 mass emissions, in metric tons, by multiplying the results obtained from Equation C–14 of this section by the annual CO_2 mass emissions in metric tons, as determined:

(A) Under paragraph (a)(4)(vi) of this section, for units using the Tier 4 Calculation Methodology.

(B) Under paragraph (a)(5)(iii)(B) of this section, for units using the alternative calculation methodology specified in paragraph (a)(5)(iii).

(C) From the electronic data report required under § 75.64 of this chapter, for units in the Acid Rain Program and other units using CEMS to monitor and report CO_2 mass emissions according to part 75 of this chapter. However, before calculating the annual biogenic CO_2 mass emissions, multiply the cumulative annual CO_2 mass emissions by 0.91 to convert from short tons to metric tons.

(3) You must use the procedures in paragraphs (e)(3)(i) through (e)(3)(iii) of this section to determine the annual biogenic CO_2 emissions from the combustion of MSW, except as otherwise provided in paragraph (e)(3)(iv) of this section. These procedures also may be used for any unit that co-fires biomass and fossil fuels, including units equipped with a CO_2 CEMS, and units for which optional separate reporting of biogenic CO_2 emissions from the combustion of tires is selected.

(i) Use an applicable CO_2 emissions calculation method in this section to quantify the total annual CO_2 mass emissions from the unit.

(ii) Determine the relative proportions of biogenic and non-biogenic CO_2 emissions in the flue gas on a quarterly basis using the method specified in § 98.34(d) (for units that combust MSW as the primary fuel or as the only fuel with a biogenic component) or in § 98.34(e) (for other units, including units that combust tires).

(iii) Determine the annual biogenic CO_2 mass emissions from the unit by multiplying the total annual CO_2 mass emissions by the annual average biogenic decimal fraction obtained from § 98.34(d) or § 98.34(e), as applicable.

(iv) If the combustion of MSW and/or tires provides no more than 10 percent of the annual heat input to a unit, or if a small, batch incinerator combusts no more than 1,000 tons per year of MSW, you may estimate the annual biogenic CO_2 emissions as follows, in lieu of following the procedures in paragraphs (e)(3)(i) through (e)(3)(iii) of this section:

(A) Calculate the total annual CO_2 emissions from combustion of MSW and/or tires in the unit, using the Tier 1 calculation methodology in paragraph (a)(1) of this section.

(B) Multiply the result from paragraph (e)(3)(iv)(A) of this section by the appropriate default factor to determine the annual biogenic CO_2 emissions, in metric tons. For MSW, use a default factor of 0.60 and for tires, use a default factor of 0.20.

(4) If Equation C–1 or Equation C–2a of this section is selected to calculate the annual biogenic mass emissions for wood, wood waste, or other solid biomass-derived fuel, Equation C–15 of this section may be used to quantify biogenic fuel consumption, provided that all of the required input parameters are accurately quantified. Similar equations and calculation methodologies based on steam generation

and boiler efficiency may be used, provided that they are documented in the GHG Monitoring Plan required by §98.3(g)(5).

$$(Fuel)_p = \frac{[H * S] - (HI)_{nb}}{2000\,(HHV)_{bio}\,(Eff)_{bio}} \qquad \text{(Eq. C-15)}$$

Where:

$(Fuel)_p$ = Quantity of biomass consumed during the measurement period ''p'' (tons/year or tons/month, as applicable).

H = Average enthalpy of the boiler steam for the measurement period (Btu/lb).

S = Total boiler steam production for the measurement period (lb/month or lb/year, as applicable).

$(HI)_{nb}$ = Heat input from co-fired fossil fuels and non-biomass-derived fuels for the measurement period, based on company records of fuel usage and default or measured HHV values (Btu/month or Btu/year, as applicable).

$(HHV)_{bio}$ = Default or measured high heat value of the biomass fuel (Btu/lb).

$(Eff)_{bio}$ = Percent efficiency of biomass-to-energy conversion, expressed as a decimal fraction.

2000 = Conversion factor (lb/ton).

(5) For units subject to subpart D of this part and for units that use the methods in part 75 of this chapter to quantify CO_2 mass emissions in accordance with paragraph (a)(5) of this section, you may calculate biogenic CO_2 emissions from the combustion of biomass fuels listed in Table C–1 of this subpart using Equation C–15a. This equation may not be used to calculate biogenic CO_2 emissions from the combustion of tires or MSW; the methods described in paragraph (e)(3) of this section must be used for those fuels. Whenever $(HI)_A$, the annual heat input from combustion of biomass fuel in Equation C–15a, cannot be determined solely from the information in the electronic emissions reports under §75.64 of this chapter (*e.g.*, in cases where a unit uses CEMS in combination with multiple F-factors, a worst-case F-factor, or a prorated F-factor to report heat input rather than reporting heat input based on fuel type), use the best available information (as described in §§98.33(c)(4)(ii)(C) and (c)(4)(ii)(D)) to determine $(HI)_A$.

$$CO_2 = 0.001 * (HI)_A * EF \quad \text{(Eq. C–15a)}$$

where:

CO_2 = Annual CO_2 mass emissions from the combustion of a particular type of biomass fuel listed in Table C–1 (metric tons)

$(HI)_A$ = Annual heat input from the biomass fuel, obtained, where feasible, from the electronic emissions reports required under §75.64 of this chapter. Where this is not feasible use best available information, as described in §§98.33(c)(4)(ii)(C) and (c)(4)(ii)(D) (mmBtu)

EF = CO_2 emission factor for the biomass fuel, from Table C–1 (kg CO_2/mmBtu)

0.001 = Conversion factor from kg to metric tons

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§98.34 Monitoring and QA/QC requirements.

The CO_2 mass emissions data for stationary fuel combustion sources shall be monitored as follows:

(a) For the Tier 2 Calculation Methodology:

(1) All fuel samples shall be taken at a location in the fuel handling system that provides a sample representative of the fuel combusted. The fuel sampling and analysis may be performed by either the owner or operator or the supplier of the fuel.

(2) The minimum required frequency of the HHV sampling and analysis for each type of fuel or fuel mixture (blend) is specified in this paragraph. When the specified frequency for a particular fuel or blend is based on a specified time period (*e.g.*, week, month, quarter, or half-year), fuel sampling and analysis is required only for those time periods in which the fuel or blend is combusted. The owner or operator may perform fuel sampling and analysis more often than the minimum required frequency, in order to obtain a more representative annual average HHV.

(i) For natural gas, semiannual sampling and analysis is required (*i.e.*,

twice in a calendar year, with consecutive samples taken at least four months apart).

(ii) For coal and fuel oil, and for any other solid or liquid fuel that is delivered in lots, analysis of at least one representative sample from each fuel lot is required. For fuel oil, as an alternative to sampling each fuel lot, a sample may be taken upon each addition of oil to the unit's storage tank. Flow proportional sampling, continuous drip sampling, or daily manual oil sampling may also be used, in lieu of sampling each fuel lot. If the daily manual oil sampling option is selected, sampling from a particular tank is required only on days when oil from the tank is combusted by the unit (or units) served by the tank. If you elect to sample from the storage tank upon each addition of oil to the tank, you must take at least one sample from each tank that is currently in service and whenever oil is added to the tank, for as long as the tank remains in service. You need not take any samples from a storage tank while it is out of service. Rather, take a sample when the tank is brought into service and whenever oil is added to the tank, for as long as the tank remains in service. If multiple additions of oil are made to a particular in-service tank on a given day (*e.g.*, from multiple deliveries), one sample taken after the final addition of oil is sufficient. For the purposes of this section, a fuel lot is defined as a shipment or delivery of a single type of fuel (*e.g.*, ship load, barge load, group of trucks, group of railroad cars, oil delivery via pipeline from a tank farm, *etc.*). However, if multiple deliveries of a particular type of fuel are received from the same supply source in a given calendar month, the deliveries for that month may be considered, collectively, to comprise a fuel lot, requiring only one representative sample, subject to the following conditions:

(A) For coal, the ''type'' of fuel means the rank of the coal (*i.e.*, anthracite, bituminous, sub-bituminous, or lignite). For fuel oil, the ''type'' of fuel means the grade number or classification of the oil (*e.g.*, No. 1 oil, No. 2 oil, kerosene, Jet A fuel, *etc.*).

(B) The owner or operator shall document in the monitoring plan under § 98.3(g)(5) how the monthly sampling of each type of fuel is performed.

(iii) For liquid fuels other than fuel oil, and for gaseous fuels other than natural gas (including biogas), sampling and analysis is required at least once per calendar quarter. To the extent practicable, consecutive quarterly samples shall be taken at least 30 days apart.

(iv) For other solid fuels (except MSW), weekly sampling is required to obtain composite samples, which are then analyzed monthly.

(v) For fuel blends that are received already mixed, or that are mixed onsite without measuring the exact amount of each component, as described in paragraph (a)(3)(ii) of this section, determine the HHV of the blend as follows. For blends of solid fuels (except MSW), weekly sampling is required to obtain composite samples, which are analyzed monthly. For blends of liquid or gaseous fuels, sampling and analysis is required at least once per calendar quarter. More frequent sampling is recommended if the composition of the blend varies significantly during the year.

(3) *Special considerations for blending of fuels.* In situations where different types of fuel listed in Table C–1 of this subpart (for example, different ranks of coal or different grades of fuel oil) are in the same state of matter (*i.e.*, solid, liquid, or gas), and are blended prior to combustion, use the following procedures to determine the appropriate CO_2 emission factor and HHV for the blend.

(i) If the fuels to be blended are received separately, and if the quantity (mass or volume) of each fuel is measured before the fuels are mixed and combusted, then, for each component of the blend, calculate the CO_2 mass emissions separately. Substitute into Equation C–2a of this subpart the total measured mass or volume of the component fuel (from company records), together with the appropriate default CO_2 emission factor from Table C–1, and the annual average HHV, calculated according to § 98.33(a)(2)(ii). In this case, the fact that the fuels are blended prior to combustion is of no consequence.

(ii) If the fuel is received as a blend (*i.e.*, already mixed) or if the components are mixed on site without precisely measuring the mass or volume of each one individually, a reasonable estimate of the relative proportions of the components of the blend must be made, using the best available information (*e.g.*, the approximate annual average mass or volume percentage of each fuel, based on the typical or expected range of values). Determine the appropriate CO_2 emission factor and HHV for use in Equation C–2a of this subpart, as follows:

(A) Consider the blend to be the ''fuel type,'' measure its HHV at the frequency prescribed in paragraph (a)(2)(v) of this section, and determine the annual average HHV value for the blend according to §98.33(a)(2)(ii).

(B) Calculate a heat-weighted CO_2 emission factor, $(EF)_B$, for the blend, using Equation C–16 of this section. The heat-weighting in Equation C–16 is provided by the default HHVs (from Table C–1) and the estimated mass or volume percentages of the components of the blend.

(C) Substitute into Equation C–2a of this subpart, the annual average HHV for the blend (from paragraph (a)(3)(ii)(A) of this section) and the calculated value of $(EF)_B$, along with the total mass or volume of the blend combusted during the reporting year, to determine the annual CO_2 mass emissions from combustion of the blend.

$$(EF)_B = \frac{\sum_{i=1}^{n}\left[(HHV)_i\ (\%Fuel)_i\ (EF)_i\right]}{(HHV)_B} \qquad \text{(Eq. C-16)}$$

where:

$(EF)_B$ = Heat-weighted CO_2 emission factor for the blend (kg CO_2/mmBtu)

$(HHV)_i$ = Default high heat value for fuel ''i'' in the blend, from Table C–1 (mmBtu per mass or volume)

$(\%Fuel)_i$ = Estimated mass or volume percentage of fuel ''i'' (mass % or volume %, as applicable, expressed as a decimal fraction; *e.g.*, 25% = 0.25)

$(EF)_i$ = Default CO_2 emission factor for fuel ''i'' from Table C–1 (mmBtu per mass or volume)

$(HHV)_B$ = Annual average high heat value for the blend, calculated according to §98.33(a)(2)(ii) (mmBtu per mass or volume)

(iii) Note that for the case described in paragraph (a)(3)(ii) of this section, if measured HHV values for the individual fuels in the blend or for the blend itself are not routinely received at the minimum frequency prescribed in paragraph (a)(2) of this section (or at a greater frequency), and if the unit qualifies to use Tier 1, calculate $(HHV)_B$*, the heat-weighted default HHV for the blend, using Equation C–17 of this section. Then, use Equation C–16 of this section, replacing the term $(HHV)_B$ with $(HHV)_B$* in the denominator, to determine the heat-weighted CO_2 emission factor for the blend. Finally, substitute into Equation C–1 of this subpart, the calculated values of $(HHV)_B$* and $(EF)_B$, along with the total mass or volume of the blend combusted during the reporting year, to determine the annual CO_2 mass emissions from combustion of the blend.

$$HHV_B^{\ *} = \sum_{i=1}^{n}\left[(HHV)_i\ (\%Fuel)_i\right] \qquad \text{(Eq. C-17)}$$

where:

$(HHV)_B$* = Heat-weighted default high heat value for the blend (mmBtu per mass or Volume)

$(HHV)_i$ = Default high heat value for fuel ''i'' in the blend, from Table C–1 (mmBtu per mass or volume)

$(\%Fuel)_i$ = Estimated mass or volume percentage of fuel ''i'' in the blend (mass % or volume %, as applicable, expressed as a decimal fraction)

(iv) If the fuel blend described in paragraph (a)(3)(ii) of this section consists of a mixture of fuel(s) listed in Table C–1 of this subpart and one or more fuels not listed in Table C–1, calculate CO_2 and other GHG emissions only for the Table C–1 fuel(s), using the best available estimate of the mass or volume percentage(s) of the Table C–1 fuel(s) in the blend. In this case, Tier 1 shall be used, with the following modifications to Equations C–17 and C–1, to account for the fact that not all of the fuels in the blend are listed in Table C–1:

(A) In Equation C–17, apply the term $(Fuel)_i$ only to the Table C–1 fuels. For each Table C–1 fuel, $(Fuel)_i$ will be the estimated mass or volume percentage of the fuel in the blend, divided by the sum of the mass or volume percentages of the Table C–1 fuels. For example, suppose that a blend consists of two Table C–1 fuels (''A'' and ''B'') and one fuel type (''C'') not listed in the Table, and that the volume percentages of fuels A, B, and C in the blend, expressed as decimal fractions, are, respectively, 0.50, 0.30, and 0.20. The term $(Fuel)_i$ in Equation C–17 for fuel A will be 0.50/(0.50 + 0.30) = 0.625, and for fuel B, $(Fuel)_i$ will be 0.30/(0.50 + 0.30) = 0.375.

(B) In Equation C–1, the term ''Fuel'' will be equal to the total mass or volume of the blended fuel combusted during the year multiplied by the sum of the mass or volume percentages of the Table C–1 fuels in the blend. For the example in paragraph (a)(3)(iv)(A) of this section, ''Fuel'' = (Annual volume of the blend combusted)(0.80).

(4) If, for a particular type of fuel, HHV sampling and analysis is performed more often than the minimum frequency specified in paragraph (a)(2) of this section, the results of all valid fuel analyses shall be used in the GHG emission calculations.

(5) If, for a particular type of fuel, valid HHV values are obtained at less than the minimum frequency specifed in paragraph (a)(2) of this section, appropriate substitute data values shall be used in the emissions calculations, in accordance with missing data procedures of § 98.35.

(6) You must use one of the following appropriate fuel sampling and analysis methods. The HHV may be calculated using chromatographic analysis together with standard heating values of the fuel constituents, provided that the gas chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions. Alternatively, you may use a method published by a consensus-based standards organization if such a method exists, or you may use industry standard practice to determine the high heat values. Consensus-based standards organizations include, but are not limited to, the following: ASTM International (100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), the American National Standards Institute (ANSI, 1819 L Street, NW., 6th floor, Washington, DC 20036, (202) 293–8020, *http://www.ansi.org*), the American Gas Association (AGA, 400 North Capitol Street, NW., 4th Floor, Washington, DC 20001, (202) 824–7000, *http://www.aga.org*), the American Society of Mechanical Engineers (ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*), the American Petroleum Institute (API, 1220 L Street, NW., Washington, DC 20005–4070, (202) 682–8000, *http://www.api.org*), and the North American Energy Standards Board (NAESB, 801 Travis Street, Suite 1675, Houston, TX 77002, (713) 356–0060, *http://www.api.org*). The method(s) used shall be documented in the Monitoring Plan required under § 98.3(g)(5).

(b) For the Tier 3 Calculation Methodology:

(1) You must calibrate each oil and gas flow meter according to § 98.3(i) and the provisions of this paragraph (b)(1).

(i) Perform calibrations using any of the test methods and procedures in this paragraph (b)(1)(i). The method(s) used shall be documented in the Monitoring Plan required under § 98.3(g)(5).

(A) You may use the calibration procedures specified by the flow meter manufacturer.

(B) You may use an appropriate flow meter calibration method published by a consensus-based standards organization, if such a method exists. Consensus-based standards organizations include, but are not limited to, the following: ASTM International (100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), the American National Standards Institute (ANSI, 1819 L Street, NW., 6th floor, Washington, DC 20036, (202) 293–8020, *http://www.ansi.org*), the American Gas Association (AGA, 400 North Capitol Street, NW., 4th Floor, Washington, DC 20001, (202) 824–7000, *http://www.aga.org*), the American Society of Mechanical Engineers (ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*), the American Petroleum Institute (API, 1220 L Street, NW., Washington, DC 20005–4070, (202) 682–8000, *http://www.api.org*), and the North American Energy Standards Board (NAESB, 801 Travis Street, Suite 1675, Houston, TX 77002, (713) 356–0060, *http://www.api.org*).

(C) You may use an industry-accepted practice.

(ii) In addition to the initial calibration required by §98.3(i), recalibrate each fuel flow meter (except as otherwise provided in paragraph (b)(1)(iii) of this section) according to one of the following. You may recalibrate annually, at the minimum frequency specified by the manufacturer, or at the interval specified by industry standard practice.

(iii) Fuel billing meters are exempted from the initial and ongoing calibration requirements of this paragraph and from the Monitoring Plan and recordkeeping requirements of §§98.3(g)(5)(i)(C), (g)(6), and (g)(7), provided that the fuel supplier and the unit combusting the fuel do not have any common owners and are not owned by subsidiaries or affiliates of the same company. Meters used exclusively to measure the flow rates of fuels that are only used for unit startup are also exempted from the initial and ongoing calibration requirements of this paragraph.

(iv) For the initial calibration of an orifice, nozzle, or venturi meter; in-situ calibration of the transmitters is sufficient. A primary element inspection (PEI) shall be performed at least once every three years.

(v) For the continuously-operating units and processes described in §98.3(i)(6), the required flow meter recalibrations and, if necessary, the PEIs may be postponed until the next scheduled maintenance outage.

(vi) If a mixture of liquid or gaseous fuels is transported by a common pipe, you may either separately meter each of the fuels prior to mixing, using flow meters calibrated according to §98.3(i), or consider the fuel mixture to be the ''fuel type'' and meter the mixed fuel, using a flow meter calibrated according to §98.3(i).

(2) Oil tank drop measurements (if used to determine liquid fuel use volume) shall be performed according to any an appropriate method published by a consensus-based standards organization (e.g., the American Petroleum Institute).

(3) The carbon content and, if applicable, molecular weight of the fuels shall be determined according to the procedures in this paragraph (b)(3).

(i) All fuel samples shall be taken at a location in the fuel handling system that provides a sample representative of the fuel combusted. The fuel sampling and analysis may be performed by either the owner or operator or by the supplier of the fuel.

(ii) For each type of fuel, the minimum required frequency for collecting and analyzing samples for carbon content and (if applicable) molecular weight is specified in this paragraph. When the sampling frequency is based on a specified time period (*e.g.*, week, month, quarter, or half-year), fuel sampling and analysis is required for only those time periods in which the fuel is combusted.

(A) For natural gas, semiannual sampling and analysis is required (*i.e.*, twice in a calendar year, with consecutive samples taken at least four months apart).

(B) For coal and fuel oil and for any other solid or liquid fuel that is delivered in lots, analysis of at least one representative sample from each fuel lot is required. For fuel oil, as an alternative to sampling each fuel lot, a sample may be taken upon each addition of oil to the storage tank. Flow proportional sampling, continuous drip sampling, or daily manual oil sampling may also be used, in lieu of sampling each fuel lot. If the daily manual oil sampling option is selected, sampling from a particular tank is required only on days when oil from the tank is combusted by the unit (or units) served by the tank. If you elect to sample from the storage tank upon each addition of oil to the tank, you must take at least one sample from each tank that is currently in service and whenever oil is added to the tank, for as long as the tank remains in service. You need not take any samples from a storage tank while it is out of service. Rather, take a sample when the tank is brought into service and whenever oil is added to the tank, for as long as the tank remains in service. If multiple additions of oil are made to a particular in service tank on a given day (*e.g.*, from multiple deliveries), one sample taken after the final addition of oil is sufficient. For the purposes of this section, a fuel lot is defined as a shipment or delivery of a single type of fuel (*e.g.*, ship load, barge load, group of trucks, group of railroad cars, oil delivery via pipeline from a tank farm, *etc.*). However, if multiple deliveries of a particular type of fuel are received from the same supply source in a given calendar month, the deliveries for that month may be considered, collectively, to comprise a fuel lot, requiring only one representative sample, subject to the following conditions:

(*1*) For coal, the ''type'' of fuel means the rank of the coal (*i.e.*, anthracite, bituminous, sub-bituminous, or lignite). For fuel oil, the ''type'' of fuel means the grade number or classification of the oil (*e.g.*, No. 1 oil, No. 2 oil, kerosene, Jet A fuel, *etc.*).

(*2*) The owner or operator shall document in the monitoring plan under § 98.3(g)(5) how the monthly sampling of each type of fuel is performed.

(C) For liquid fuels other than fuel oil and for biogas, sampling and analysis is required at least once per calendar quarter. To the extent practicable, consecutive quarterly samples shall be taken at least 30 days apart.

(D) For other solid fuels (except MSW), weekly sampling is required to obtain composite samples, which are then analyzed monthly.

(E) For gaseous fuels other than natural gas and biogas (*e.g.*, process gas), daily sampling and analysis to determine the carbon content and molecular weight of the fuel is required if continuous, on-line equipment, such as a gas chromatograph, is in place to make these measurements. Otherwise, weekly sampling and analysis shall be performed.

(F) For mixtures (blends) of solid fuels, weekly sampling is required to obtain composite samples, which are analyzed monthly. For blends of liquid fuels, and for gas mixtures consisting only of natural gas and biogas, sampling and analysis is required at least once per calendar quarter. For gas mixtures that contain gases other than natural gas (including biogas), daily sampling and analysis to determine the carbon content and molecular weight of the fuel is required if continuous, on-line equipment is in place to make these measurements. Otherwise, weekly sampling and analysis shall be performed.

(iii) If, for a particular type of fuel, sampling and analysis for carbon content and molecular weight is performed more often than the minimum frequency specified in paragraph (b)(3) of this section, the results of all valid fuel analyses shall be used in the GHG emission calculations.

(iv) If, for a particular type of fuel, sampling and analysis for carbon content and molecular weight is performed at less than the minimum frequency specified in paragraph (b)(3) of this section, appropriate substitute data values shall be used in the emissions calculations, in accordance with the missing data procedures of § 98.35.

(v) To calculate the CO_2 mass emissions from combustion of a blend of fuels in the same state of matter (solid, liquid, or gas), you may either:

(A) Apply Equation C–3, C–4 or C–5 of this subpart (as applicable) to each component of the blend, if the mass or volume, the carbon content, and (if applicable), the molecular weight of each component are accurately measured prior to blending; or

(B) Consider the blend to be the ''fuel type.'' Then, at the frequency specified in paragraph (b)(3)(ii)(F) of this section, measure the carbon content and, if applicable, the molecular weight of the blend and calculate the annual average value of each parameter in the manner described in §98.33(a)(2)(ii). Also measure the mass or volume of the blended fuel combusted during the reporting year. Substitute these measured values into Equation C–3, C–4, or C–5 of this subpart (as applicable).

(4) You must use one of the following appropriate fuel sampling and analysis methods. The results of chromatographic analysis of the fuel may be used, provided that the gas chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions. Alternatively, you may use a method published by a consensus-based standards organization if such a method exists, or you may use industry standard practice to determine the carbon content and molecular weight (for gaseous fuel) of the fuel. Consensus-based standards organizations include, but are not limited to, the following: ASTM International (100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), the American National Standards Institute (ANSI, 1819 L Street, NW., 6th floor, Washington, DC 20036, (202) 293–8020, *http://www.ansi.org*), the American Gas Association (AGA, 400 North Capitol Street, NW., 4th Floor, Washington, DC 20001, (202) 824–7000, *http://www.aga.org*), the American Society of Mechanical Engineers (ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*), the American Petroleum Institute (API, 1220 L Street, NW., Washington, DC 20005–4070, (202) 682–8000, *http://www.api.org*), and the North American Energy Standards Board (NAESB, 801 Travis Street, Suite 1675, Houston, TX 77002, (713) 356–0060, *http://www.api.org*). The method(s) used shall be documented in the Monitoring Plan required under §98.3(g)(5).

(c) For the Tier 4 Calculation Methodology, the CO_2, flow rate, and (if applicable) moisture monitors must be certified prior to the applicable deadline specified in §98.33(b)(5).

(1) For initial certification, you may use any one of the following three procedures in this paragraph.

(i) §§75.20(c)(2), (c)(4), and (c)(5) through (c)(7) of this chapter and appendix A to part 75 of this chapter.

(ii) The calibration drift test and relative accuracy test audit (RATA) procedures of Performance Specification 3 in appendix B to part 60 of this chapter (for the CO_2 concentration monitor) and Performance Specification 6 in appendix B to part 60 of this chapter (for the continuous emission rate monitoring system (CERMS)).

(iii) The provisions of an applicable State continuous monitoring program.

(2) If an O_2 concentration monitor is used to determine CO_2 concentrations, the applicable provisions of part 75 of this chapter, part 60 of this chapter, or an applicable State continuous monitoring program shall be followed for initial certification and on-going quality assurance, and all required RATAs of the monitor shall be done on a percent CO_2 basis.

(3) For ongoing quality assurance, follow the applicable procedures in either appendix B to part 75 of this chapter, appendix F to part 60 of this chapter, or an applicable State continuous monitoring program. If appendix F to part 60 of this chapter is selected for on-going quality assurance, perform daily calibration drift assessments for both the CO_2 monitor (or surrogate O_2 monitor) and the flow rate monitor, conduct cylinder gas audits of the CO_2 concentration monitor in three of the four quarters of each year (except for non-operating quarters), and perform annual RATAs of the CO_2 concentration monitor and the CERMS.

(4) For the purposes of this part, the stack gas volumetric flow rate monitor RATAs required by appendix B to part 75 of this chapter and the annual RATAs of the CERMS required by appendix F to part 60 of this chapter need only be done at one operating level, representing normal load or normal

process operating conditions, both for initial certification and for ongoing quality assurance.

(5) If, for any source operating hour, quality assured data are not obtained with a CO_2 monitor (or surrogate O_2 monitor), flow rate monitor, or (if applicable) moisture monitor, use appropriate substitute data values in accordance with the missing data provisions of § 98.35.

(6) For certain applications where combined process emissions and combustion emissions are measured, the CO_2 concentrations in the flue gas may be considerably higher than for combustion emissions alone. In such cases, the span of the CO_2 monitor may, if necessary, be set higher than the specified levels in the applicable regulations. If the CO_2 span value is set higher than 20 percent CO_2, the cylinder gas audits of the CO_2 monitor under appendix F to part 60 of this chapter may be performed at 40 to 60 percent and 80 to 100 percent of span, in lieu of the prescribed calibration levels of 5 to 8 percent CO_2 and 10 to 14 percent CO_2.

(7) Hourly average data from the CEMS shall be validated in a manner consistent with one of the following: §§ 60.13(h)(2)(i) through (h)(2)(vi) of this chapter; § 75.10(d)(1) of this chapter; or the hourly data validation requirements of an applicable State CEM regulation.

(d) Except as otherwise provided in § 98.33 (b)(1)(vi) and (b)(1)(vii), when municipal solid waste (MSW) is either the primary fuel combusted in a unit or the only fuel with a biogenic component combusted in the unit, determine the biogenic portion of the CO_2 emissions using ASTM D6866–08 Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis (incorporated by reference, see § 98.7) and ASTM D7459–08 Standard Practice for Collection of Integrated Samples for the Speciation of Biomass (Biogenic) and Fossil-Derived Carbon Dioxide Emitted from Stationary Emissions Sources (incorporated by reference, see § 98.7). Perform the ASTM D7459–08 sampling and the ASTM D6866–08 analysis at least once in every calendar quarter in which MSW is combusted in the unit. Collect each gas sample during normal unit operating conditions for at least 24 total (not necessarily consecutive) hours, or longer if the facility deems it necessary to obtain a representative sample. Notwithstanding this requirement, if the types of fuels combusted and their relative proportions are consistent throughout the year, the minimum required sampling time may be reduced to 8 hours if at least two 8-hour samples and one 24-hour sample are collected under normal operating conditions, and arithmetic average of the biogenic fraction of the flue gas from the 8-hour samples (expressed as a decimal) is within ±5 percent of the biogenic fraction from the 24-hour test. There must be no overlapping of the 8-hour and 24-hour test periods. Document the results of the demonstration in the unit's monitoring plan. If the types of fuels and their relative proportions are not consistent throughout the year, an optional sampling approach that facilities may wish to consider to obtain a more representative sample is to collect an integrated sample by extracting a small amount of flue gas (*e.g.*, 1 to 5 cc) in each unit operating hour during the quarter. Separate the total annual CO_2 emissions into the biogenic and non-biogenic fractions using the average proportion of biogenic emissions of all samples analyzed during the reporting year. Express the results as a decimal fraction (*e.g.*, 0.30, if 30 percent of the CO_2 is biogenic). When MSW is the primary fuel for multiple units at the facility, and the units are fed from a common fuel source, testing at only one of the units is sufficient.

(e) For other units that combust combinations of biomass fuel(s) (or heterogeneous fuels that have a biomass component, *e.g.*, tires) and fossil (or other non-biogenic) fuel(s), in any proportions, ASTM D6866–08 (incorporated by reference, see § 98.7) and ASTM D7459–08 (incorporated by reference, see § 98.7) may be used to determine the biogenic portion of the CO_2 emissions in every calendar quarter in which biomass and non-biogenic fuels are co-fired in the unit. Follow the procedures in paragraph (d) of this section. If the primary fuel for multiple units at the facility consists of tires, and the

units are fed from a common fuel source, testing at only one of the units is sufficient.

(f) The records required under §98.3(g)(2)(i) shall include an explanation of how the following parameters are determined from company records (or, if applicable, from the best available information):

(1) Fuel consumption, when the Tier 1 and Tier 2 Calculation Methodologies are used, including cases where §98.36(c)(4) applies.

(2) Fuel consumption, when solid fuel is combusted and the Tier 3 Calculation Methodology is used.

(3) Fossil fuel consumption when §98.33(e)(2) applies to a unit that uses CEMS to quantify CO_2 emissions and that combusts both fossil and biomass fuels.

(4) Sorbent usage, when §98.33(d) applies.

(5) Quantity of steam generated by a unit when §98.33(a)(2)(iii) applies.

(6) Biogenic fuel consumption and high heating value, as applicable, under §§98.33(e)(5) and (e)(6).

(7) Fuel usage for CH_4 and N_2O emissions calculations under §98.33(c)(4)(ii).

(8) Mass of biomass combusted, for premixed fuels that contain biomass and fossil fuels under §98.33(e)(1)(iii).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79146, Dec. 17, 2010]

§98.35 Procedures for estimating missing data.

Whenever a quality-assured value of a required parameter is unavailable (e.g., if a CEMS malfunctions during unit operation or if a required fuel sample is not taken), a substitute data value for the missing parameter shall be used in the calculations.

(a) For all units subject to the requirements of the Acid Rain Program, and all other stationary combustion units subject to the requirements of this part that monitor and report emissions and heat input data year-round in accordance with part 75 of this chapter, the missing data substitution procedures in part 75 of this chapter shall be followed for CO_2 concentration, stack gas flow rate, fuel flow rate, high heating value, and fuel carbon content.

(b) For units that use the Tier 1, Tier 2, Tier 3, and Tier 4 Calculation Methodologies, perform missing data substitution as follows for each parameter:

(1) For each missing value of the high heating value, carbon content, or molecular weight of the fuel, substitute the arithmetic average of the quality-assured values of that parameter immediately preceding and immediately following the missing data incident. If the ''after'' value has not been obtained by the time that the GHG emissions report is due, you may use the ''before'' value for missing data substitution or the best available estimate of the parameter, based on all available process data (e.g., electrical load, steam production, operating hours). If, for a particular parameter, no quality-assured data are available prior to the missing data incident, the substitute data value shall be the first quality-assured value obtained after the missing data period.

(2) For missing records of CO_2 concentration, stack gas flow rate, percent moisture, fuel usage, and sorbent usage, the substitute data value shall be the best available estimate of the parameter, based on all available process data (e.g., electrical load, steam production, operating hours, etc.). You must document and retain records of the procedures used for all such estimates.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79150, Dec. 17, 2010]

§98.36 Data reporting requirements.

(a) In addition to the facility-level information required under §98.3, the annual GHG emissions report shall contain the unit-level or process-level data specified in paragraphs (b) through (f) of this section, as applicable, for each stationary fuel combustion source (e.g., individual unit, aggregation of units, common pipe, or common stack) except as otherwise provided in this paragraph (a). For the data specified in paragraphs (b)(9)(iii), (c)(2)(ix), (e)(2)(i), (e)(2)(ii)(A), (e)(2)(ii)(C), (e)(2)(ii)(D), (e)(2)(iv)(A), (e)(2)(iv)(C), (e)(2)(iv)(F), and (e)(2)(ix)(D) through (F) of this section, the owner or operator of a stationary fuel combustion source that does not meet the criteria specified in paragraph (f) of this section may elect either to report the data specified in this

sentence in the annual report or to use verification software according to § 98.5(b) in lieu of reporting these data. If you elect to use this verification software, you must use the verification software according to § 98.5(b) for all of these data that apply to the stationary fuel combustion source.

(b) *Units that use the four tiers.* You shall report the following information for stationary combustion units that use the Tier 1, Tier 2, Tier 3, or Tier 4 methodology in § 98.33(a) to calculate CO_2 emissions, except as otherwise provided in paragraphs (c) and (d) of this section:

(1) The unit ID number.

(2) A code representing the type of unit.

(3) Maximum rated heat input capacity of the unit, in mmBtu/hr.

(4) Each type of fuel combusted in the unit during the report year.

(5) The methodology (*i.e.*, tier) used to calculate the CO_2 emissions for each type of fuel combusted (*i.e.*, Tier 1, 2, 3, or 4).

(6) The methodology start date, for each fuel type.

(7) The methodology end date, for each fuel type.

(8) For a unit that uses Tiers 1, 2, or 3:

(i) The annual CO_2 mass emissions (including biogenic CO_2), and the annual CH_4, and N_2O mass emissions for each type of fuel combusted during the reporting year, expressed in metric tons of each gas and in metric tons of CO_2e; and

(ii) Metric tons of biogenic CO_2 emissions (if applicable).

(9) For a unit that uses Tier 4:

(i) If the total annual CO_2 mass emissions measured by the CEMS consists entirely of non-biogenic CO_2 (*i.e.*, CO_2 from fossil fuel combustion plus, if applicable, CO_2 from sorbent and/or process CO_2), report the total annual CO_2 mass emissions, expressed in metric tons. You are not required to report the combustion CO_2 emissions by fuel type.

(ii) Report the total annual CO_2 mass emissions measured by the CEMS. If this total includes both biogenic and non-biogenic CO_2, separately report the annual non-biogenic CO_2 mass emissions and the annual CO_2 mass emissions from biomass combustion, each expressed in metric tons. You are not required to report the combustion CO_2 emissions by fuel type.

(iii) An estimate of the heat input from each type of fuel listed in Table C–2 of this subpart that was combusted in the unit during the report year.

(iv) The annual CH_4 and N_2O emissions for each type of fuel listed in Table C–2 of this subpart that was combusted in the unit during the report year, expressed in metric tons of each gas and in metric tons of CO_2e.

(10) Annual CO_2 emissions from sorbent (if calculated using Equation C–11 of this subpart), expressed in metric tons.

(11) If applicable, the plant code (as defined in § 98.6).

(c) *Reporting alternatives for units using the four Tiers.* You may use any of the applicable reporting alternatives of this paragraph to simplify the unit-level reporting required under paragraph (b) of this section:

(1) *Aggregation of units.* If a facility contains two or more units (e.g., boilers or combustion turbines), each of which has a maximum rated heat input capacity of 250 mmBtu/hr or less, you may report the combined GHG emissions for the group of units in lieu of reporting GHG emissions from the individual units, provided that the use of Tier 4 is not required or elected for any of the units and the units use the same tier for any common fuels combusted. If this option is selected, the following information shall be reported instead of the information in paragraph (b) of this section:

(i) Group ID number, beginning with the prefix ''GP''.

(ii)–(iii) [Reserved]

(iv) The highest maximum rated heat input capacity of any unit in the group (mmBtu/hr).

(v) Each type of fuel combusted in the group of units during the reporting year.

(vi) Annual CO_2 mass emissions and annual CH_4, and N_2O mass emissions, aggregated for each type of fuel combusted in the group of units during the report year, expressed in metric tons of each gas and in metric tons of CO_2e. If any of the units burn both fossil fuels and biomass, report also the annual

CO_2 emissions from combustion of all fossil fuels combined and annual CO_2 emissions from combustion of all biomass fuels combined, expressed in metric tons.

(vii) The methodology (*i.e.*, tier) used to calculate the CO_2 mass emissions for each type of fuel combusted in the units (*i.e.*, Tier 1, Tier 2, or Tier 3).

(viii) The methodology start date, for each fuel type.

(ix) The methodology end date, for each fuel type.

(x) The calculated CO_2 mass emissions (if any) from sorbent expressed in metric tons.

(xi) If applicable, the plant code (as defined in §98.6).

(2) *Monitored common stack or duct configurations.* When the flue gases from two or more stationary fuel combustion units at a facility are combined together in a common stack or duct before exiting to the atmosphere and if CEMS are used to continuously monitor CO_2 mass emissions at the common stack or duct according to the Tier 4 Calculation Methodology, you may report the combined emissions from the units sharing the common stack or duct, in lieu of separately reporting the GHG emissions from the individual units. This monitoring and reporting alternative may also be used when process off-gases or a mixture of combustion products and process gases are combined together in a common stack or duct before exiting to the atmosphere. Whenever the common stack or duct monitoring option is applied, the following information shall be reported instead of the information in paragraph (b) of this section:

(i) Common stack or duct identification number, beginning with the prefix ''CS''.

(ii) Number of units sharing the common stack or duct. Report ''1'' when the flue gas flowing through the common stack or duct includes combustion products and/or process off-gases, and all of the effluent comes from a single unit (*e.g.*, a furnace, kiln, petrochemical production unit, or smelter).

(iii) Combined maximum rated heat input capacity of the units sharing the common stack or duct (mmBtu/hr). This data element is required only when all of the units sharing the common stack are stationary fuel combustion units.

(iv) Each type of fuel combusted in the units during the year.

(v) The methodology (tier) used to calculate the CO_2 mass emissions, *i.e.*, Tier 4.

(vi) The methodology start date.

(vii) The methodology end date.

(viii) Total annual CO_2 mass emissions measured by the CEMS, expressed in metric tons. If any of the units burn both fossil fuels and biomass, separately report the annual non-biogenic CO_2 mass emissions (*i.e.*, CO_2 from fossil fuel combustion plus, if applicable, CO_2 from sorbent and/or process CO_2) and the annual CO_2 mass emissions from biomass combustion, each expressed in metric tons.

(ix) An estimate of the heat input from each type of fuel listed in Table C–2 of this subpart that was combusted in the units sharing the common stack or duct during the report year.

(x) For each type of fuel listed in Table C–2 of this subpart that was combusted during the report year in the units sharing the common stack or duct during the report year, the annual CH_4 and N_2O mass emissions from the units sharing the common stack or duct, expressed in metric tons of each gas and in metric tons of CO_2e.

(xi) If applicable, the plant code (as defined in §98.6).

(3) *Common pipe configurations.* When two or more stationary combustion units at a facility combust the same type of liquid or gaseous fuel and the fuel is fed to the individual units through a common supply line or pipe, you may report the combined emissions from the units served by the common supply line, in lieu of separately reporting the GHG emissions from the individual units, provided that the total amount of fuel combusted by the units is accurately measured at the common pipe or supply line using a fuel flow meter, or, for natural gas, the amount of fuel combusted may be obtained from gas billing records. For Tier 3 applications, the flow meter shall be calibrated in accordance with §98.34(b). If a portion of the fuel measured (or obtained from gas billing records) at the main supply line is diverted to either: A flare; or another

stationary fuel combustion unit (or units), including units that use a CO_2 mass emissions calculation method in part 75 of this chapter; or a chemical or industrial process (where it is used as a raw material but not combusted), and the remainder of the fuel is distributed to a group of combustion units for which you elect to use the common pipe reporting option, you may use company records to subtract out the diverted portion of the fuel from the fuel measured (or obtained from gas billing records) at the main supply line prior to performing the GHG emissions calculations for the group of units using the common pipe option. If the diverted portion of the fuel is combusted, the GHG emissions from the diverted portion shall be accounted for in accordance with the applicable provisions of this part. When the common pipe option is selected, the applicable tier shall be used based on the maximum rated heat input capacity of the largest unit served by the common pipe configuration, except where the applicable tier is based on criteria other than unit size. For example, if the maximum rated heat input capacity of the largest unit is greater than 250 mmBtu/hr, Tier 3 will apply, unless the fuel transported through the common pipe is natural gas or distillate oil, in which case Tier 2 may be used, in accordance with § 98.33(b)(2)(ii). As a second example, in accordance with § 98.33(b)(1)(v), Tier 1 may be used regardless of unit size when natural gas is transported through the common pipe, if the annual fuel consumption is obtained from gas billing records in units of therms or mmBtu. When the common pipe reporting option is selected, the following information shall be reported instead of the information in paragraph (b) of this section:

(i) Common pipe identification number, beginning with the prefix ''CP''.

(ii) [Reserved]

(iii) The highest maximum rated heat input capacity of any unit served by the common pipe (mmBtu/hr).

(iv) The fuels combusted in the units during the reporting year.

(v) The methodology used to calculate the CO_2 mass emissions (i.e., Tier 1, Tier 2, or Tier 3).

(vi) If the any of the units burns both fossil fuels and biomass, the annual CO_2 mass emissions from combustion of all fossil fuels and annual CO_2 emissions from combustion of all biomass fuels from the units served by the common pipe, expressed in metric tons.

(vii) Annual CO_2 mass emissions and annual CH_4 and N_2O emissions from each fuel type for the units served by the common pipe, expressed in metric tons of each gas and in metric tons of CO_2e.

(viii) Methodology start date.

(ix) Methodology end date.

(x) If applicable, the plant code (as defined in § 98.6).

(4) The following alternative reporting option applies to facilities at which a common liquid or gaseous fuel supply is shared between one or more large combustion units, such as boilers or combustion turbines (including units subject to subpart D of this part and other units subject to part 75 of this chapter) and small combustion sources, including, but not limited to, space heaters, hot water heaters, and lab burners. In this case, you may simplify reporting by attributing all of the GHG emissions from combustion of the shared fuel to the large combustion unit(s), provided that:

(i) The total quantity of the fuel combusted during the report year in the units sharing the fuel supply is measured, either at the ''gate'' to the facility or at a point inside the facility, using a fuel flow meter, billing meter, or tank drop measurements (as applicable);

(ii) On an annual basis, at least 95 percent (by mass or volume) of the shared fuel is combusted in the large combustion unit(s), and the remainder is combusted in the small combustion sources. Company records may be used to determine the percentage distribution of the shared fuel to the large and small units; and

(iii) The use of this reporting option is documented in the Monitoring Plan required under § 98.3(g)(5). Indicate in the Monitoring Plan which units share the common fuel supply and the method used to demonstrate that this alternative reporting option applies. For the small combustion sources, a description of the types of units and the

approximate number of units is sufficient.

(d) *Units subject to part 75 of this chapter*. (1) For stationary combustion units that are subject to subpart D of this part, you shall report the following unit-level information:

(i) Unit or stack identification numbers. Use exact same unit, common stack, common pipe, or multiple stack identification numbers that represent the monitored locations (*e.g.*, 1, 2, CS001, MS1A, CP001, *etc.*) that are reported under §75.64 of this chapter.

(ii) Annual CO_2 emissions at each monitored location, expressed in both short tons and metric tons. Separate reporting of biogenic CO_2 emissions under §98.3(c)(4)(ii) and §98.3(c)(4)(iii)(A) is optional only for the 2010 reporting year, as provided in §98.3(c)(12).

(iii) Annual CH_4 and N_2O emissions at each monitored location, for each fuel type listed in Table C–2 that was combusted during the year (except as otherwise provided in §98.33(c)(4)(ii)(B)), expressed in metric tons of CO_2e.

(iv) The total heat input from each fuel listed in Table C–2 that was combusted during the year (except as otherwise provided in §98.33(c)(4)(ii)(B)), expressed in mmBtu.

(v) Identification of the Part 75 methodology used to determine the CO_2 mass emissions.

(vi) Methodology start date.

(vii) Methodology end date.

(viii) Acid Rain Program indicator.

(ix) Annual CO_2 mass emissions from the combustion of biomass, expressed in metric tons of CO_2e, except where the reporting provisions of §§98.3(c)(12)(i) through (c)(12)(iii) are implemented for the 2010 reporting year.

(x) If applicable, the plant code (as defined in §98.6).

(2) For units that use the alternative CO_2 mass emissions calculation methods provided in §98.33(a)(5), you shall report the following unit-level information:

(i) Unit, stack, or pipe ID numbers. Use exact same unit, common stack, common pipe, or multiple stack identification numbers that represent the monitored locations (*e.g.*, 1, 2, CS001, MS1A, CP001, *etc.*) that are reported under §75.64 of this chapter.

(ii) For units that use the alternative methods specified in §98.33(a)(5)(i) and (ii) to monitor and report heat input data year-round according to appendix D to part 75 of this chapter or §75.19 of this chapter:

(A) Each type of fuel combusted in the unit during the reporting year.

(B) The methodology used to calculate the CO_2 mass emissions for each fuel type.

(C) Methodology start date.

(D) Methodology end date.

(E) A code or flag to indicate whether heat input is calculated according to appendix D to part 75 of this chapter or §75.19 of this chapter.

(F) Annual CO_2 emissions at each monitored location, across all fuel types, expressed in metric tons of CO_2e.

(G) Annual heat input from each type of fuel listed in Table C–2 of this subpart that was combusted during the reporting year, expressed in mmBtu.

(H) Annual CH_4 and N_2O emissions at each monitored location, from each fuel type listed in Table C–2 of this subpart that was combusted during the reporting year (except as otherwise provided in §98.33(c)(4)(ii)(D)), expressed in metric tons CO_2e.

(I) Annual CO_2 mass emissions from the combustion of biomass, expressed in metric tons CO_2e, except where the reporting provisions of §§98.3(c)(12)(i) through (c)(12)(iii) are implemented for the 2010 reporting year.

(J) If applicable, the plant code (as defined in §98.6).

(iii) For units with continuous monitoring systems that use the alternative method for units with continuous monitoring systems in §98.33(a)(5)(iii) to monitor heat input year-round according to part 75 of this chapter:

(A) Each type of fuel combusted during the reporting year.

(B) Methodology used to calculate the CO_2 mass emissions.

(C) Methodology start date.

(D) Methodology end date.

(E) A code or flag to indicate that the heat input data is derived from CEMS measurements.

(F) The total annual CO_2 emissions at each monitored location, expressed in metric tons of CO_2e.

(G) Annual heat input from each type of fuel listed in Table C–2 of this subpart that was combusted during the reporting year, expressed in mmBtu.

(H) Annual CH_4 and N_2O emissions at each monitored location, from each fuel type listed in Table C–2 of this subpart that was combusted during the reporting year (except as otherwise provided in § 98.33(c)(4)(ii)(B)), expressed in metric tons CO_2e.

(I) Annual CO_2 mass emissions from the combustion of biomass, expressed in metric tons CO_2e, except where the reporting provisions of §§ 98.3(c)(12)(i) through (c)(12)(iii) are implemented for the 2010 reporting year.

(J) If applicable, the plant code (as defined in § 98.6).

(e) *Verification data.* You must keep on file, in a format suitable for inspection and auditing, sufficient data to verify the reported GHG emissions. This data and information must, where indicated in this paragraph (e), be included in the annual GHG emissions report.

(1) The applicable verification data specified in this paragraph (e) are not required to be kept on file or reported for units that meet any one of the three following conditions:

(i) Are subject to the Acid Rain Program.

(ii) Use the alternative methods for units with continuous monitoring systems provided in § 98.33(a)(5).

(iii) Are not in the Acid Rain Program, but are required to monitor and report CO_2 mass emissions and heat input data year-round, in accordance with part 75 of this chapter.

(2) For stationary combustion sources using the Tier 1, Tier 2, Tier 3, and Tier 4 Calculation Methodologies in § 98.33(a) to quantify CO_2 emissions, the following additional information shall be kept on file and included in the GHG emissions report, where indicated:

(i) For the Tier 1 Calculation Methodology, report the total quantity of each type of fuel combusted in the unit or group of aggregated units (as applicable) during the reporting year, in short tons for solid fuels, gallons for liquid fuels and standard cubic feet for gaseous fuels, or, if applicable, therms or mmBtu for natural gas.

(ii) For the Tier 2 Calculation Methodology, report:

(A) The total quantity of each type of fuel combusted in the unit or group of aggregated units (as applicable) during each month of the reporting year. Express the quantity of each fuel combusted during the measurement period in short tons for solid fuels, gallons for liquid fuels, and scf for gaseous fuels.

(B) The frequency of the HHV determinations (e.g., once a month, once per fuel lot).

(C) The high heat values used in the CO_2 emissions calculations for each type of fuel combusted during the reporting year, in mmBtu per short ton for solid fuels, mmBtu per gallon for liquid fuels, and mmBtu per scf for gaseous fuels. Report a HHV value for each calendar month in which HHV determination is required. If multiple values are obtained in a given month, report the arithmetic average value for the month.

(D) If Equation C–2c of this subpart is used to calculate CO_2 mass emissions, report the total quantity (*i.e.*, pounds) of steam produced from MSW or solid fuel combustion during each month of the reporting year, and the ratio of the maximum rate heat input capacity to the design rated steam output capacity of the unit, in mmBtu per lb of steam.

(E) For each HHV used in the CO_2 emissions calculations for each type of fuel combusted during the reporting year, indicate whether the HHV is a measured value or a substitute data value.

(iii) For the Tier 2 Calculation Methodology, keep records of the methods used to determine the HHV for each type of fuel combusted and the date on which each fuel sample was taken, except where fuel sampling data are received from the fuel supplier. In that case, keep records of the dates on which the results of the fuel analyses for HHV are received.

(iv) For the Tier 3 Calculation Methodology, report:

(A) The quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year, in short tons for solid fuels, gallons for liquid fuels, and scf for gaseous fuels.

(B) The frequency of carbon content and, if applicable, molecular weight determinations for each type of fuel for the reporting year (e.g., daily, weekly, monthly, semiannually, once per fuel lot).

(C) The carbon content and, if applicable, gas molecular weight values used in the emission calculations (including both valid and substitute data values). For each calendar month of the reporting year in which carbon content and, if applicable, molecular weight determination is required, report a value of each parameter. If multiple values of a parameter are obtained in a given month, report the arithmetic average value for the month. Express carbon content as a decimal fraction for solid fuels, kg C per gallon for liquid fuels, and kg C per kg of fuel for gaseous fuels. Express the gas molecular weights in units of kg per kg-mole.

(D) The total number of valid carbon content determinations and, if applicable, molecular weight determinations made during the reporting year, for each fuel type.

(E) The number of substitute data values used for carbon content and, if applicable, molecular weight used in the annual GHG emissions calculations.

(F) The annual average HHV, when measured HHV data, rather than a default HHV from Table C–1 of this subpart, are used to calculate CH_4 and N_2O emissions for a Tier 3 unit, in accordance with §98.33(c)(1).

(G) The value of the molar volume constant (MVC) used in Equation C–5 (if applicable).

(v) For the Tier 3 Calculation Methodology, keep records of the following:

(A) For liquid and gaseous fuel combustion, the dates and results of the initial calibrations and periodic recalibrations of the required fuel flow meters.

(B) For fuel oil combustion, the method from §98.34(b) used to make tank drop measurements (if applicable).

(C) The methods used to determine the carbon content and (if applicable) the molecular weight of each type of fuel combusted.

(D) The methods used to calibrate the fuel flow meters).

(E) The date on which each fuel sample was taken, except where fuel sampling data are received from the fuel supplier. In that case, keep records of the dates on which the results of the fuel analyses for carbon content and (if applicable) molecular weight are received.

(vi) For the Tier 4 Calculation Methodology, report:

(A) The total number of source operating hours in the reporting year.

(B) The cumulative CO_2 mass emissions in each quarter of the reporting year, i.e., the sum of the hourly values calculated from Equation C–6 or C–7 of this subpart (as applicable), in metric tons.

(C) For CO_2 concentration, stack gas flow rate, and (if applicable) stack gas moisture content, the percentage of source operating hours in which a substitute data value of each parameter was used in the emissions calculations.

(vii) For the Tier 4 Calculation Methodology, keep records of:

(A) Whether the CEMS certification and quality assurance procedures of part 75 of this chapter, part 60 of this chapter, or an applicable State continuous monitoring program were used.

(B) The dates and results of the initial certification tests of the CEMS.

(C) The dates and results of the major quality assurance tests performed on the CEMS during the reporting year, i.e., linearity checks, cylinder gas audits, and relative accuracy test audits (RATAs).

(viii) If CO_2 emissions that are generated from acid gas scrubbing with sorbent injection are not captured using CEMS, report:

(A) The total amount of sorbent used during the report year, in short tons.

(B) The molecular weight of the sorbent.

(C) The ratio (''R'') in Equation C–11 of this subpart.

(ix) For units that combust both fossil fuel and biomass, when biogenic CO_2 is determined according to §98.33(e)(2), you shall report the following additional information, as applicable:

(A) The annual volume of CO_2 emitted from the combustion of all fuels,*i.e.*, V_{total}, in scf.

(B) The annual volume of CO_2 emitted from the combustion of fossil fuels, *i.e.*, V_{ff}, in scf. If more than one type of fossil fuel was combusted, report the combustion volume of CO_2 for each fuel separately as well as the total.

(C) The annual volume of CO_2 emitted from the combustion of biomass,*i.e.*, V_{bio}, in scf.

(D) The carbon-based F-factor used in Equation C–13 of this subpart, for each type of fossil fuel combusted, in scf CO_2 per mmBtu.

(E) The annual average HHV value used in Equation C–13 of this subpart, for each type of fossil fuel combusted, in Btu/lb, Btu/gal, or Btu/scf, as appropriate.

(F) The total quantity of each type of fossil fuel combusted during the reporting year, in lb, gallons, or scf, as appropriate.

(G) Annual biogenic CO_2 mass emissions, in metric tons.

(x) When ASTM methods D7459–08 (incorporated by reference, see § 98.7) and D6866–08 (incorporated by reference, see § 98.7) are used to determine the biogenic portion of the annual CO_2 emissions from MSW combustion, as described in § 98.34(d), report:

(A) The results of each quarterly sample analysis, expressed as a decimal fraction (e.g., if the biogenic fraction of the CO_2 emissions from MSW combustion is 30 percent, report 0.30).

(B) The annual biogenic CO_2 mass emissions from MSW combustion, in metric tons.

(xi) When ASTM methods D7459–08 (incorporated by reference, see § 98.7) and D6866–08 (incorporated by reference, see § 98.7) are used in accordance with § 98.34(e) to determine the biogenic portion of the annual CO_2 emissions from a unit that co-fires biogenic fuels (or partly-biogenic fuels, including tires if you are electing to report biogenic CO_2 emissions from tire combustion) and non-biogenic fuels, you shall report the results of each quarterly sample analysis, expressed as a decimal fraction (*e.g.*, if the biogenic fraction of the CO_2 emissions is 30 percent, report 0.30).

(3) Within 30 days of receipt of a written request from the Administrator, you shall submit explanations of the following:

(i) An explanation of how company records are used to quantify fuel consumption, if the Tier 1 or Tier 2 Calculation Methodology is used to calculate CO_2 emissions.

(ii) An explanation of how company records are used to quantify fuel consumption, if solid fuel is combusted and the Tier 3 Calculation Methodology is used to calculate CO_2 emissions.

(iii) An explanation of how sorbent usage is quantified.

(iv) An explanation of how company records are used to quantify fossil fuel consumption in units that uses CEMS to quantify CO_2 emissions and combusts both fossil fuel and biomass.

(v) An explanation of how company records are used to measure steam production, when it is used to calculate CO_2 mass emissions under § 98.33(a)(2)(iii) or to quantify solid fuel usage under § 98.33(c)(3).

(4) Within 30 days of receipt of a written request from the Administrator, you shall submit the verification data and information described in paragraphs (e)(2)(iii), (e)(2)(v), and (e)(2)(vii) of this section.

(f) Each stationary fuel combustion source (e.g., individual unit, aggregation of units, common pipe, or common stack) subject to reporting under paragraph (b) or (c) of this section must indicate if both of the following two conditions are met:

(1) The stationary fuel combustion source contains at least one combustion unit connected to a fuel-fired electric generator owned or operated by an entity that is subject to regulation of customer billing rates by the public utility commission (excluding generators that are connected to combustion units that are subject to subpart D of this part).

(2) The stationary fuel combustion source is located at a facility for which the sum of the nameplate capacities for all electric generators specified in paragraph (f)(1) of this section is greater than or equal to 1 megawatt electric output.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79151, Dec. 17, 2010; 78 FR 71950, Nov. 29, 2013; 79 FR 63782, Oct. 24, 2014]

§ 98.37 Records that must be retained.

In addition to the requirements of § 98.3(g), you must retain:

(a) The applicable records specified in §§ 98.34(f) and (g), 98.35(b), and 98.36(e).

(b) *Verification software records.* For each stationary fuel combustion source that elects to use the verification software specified in § 98.5(b) rather than report data specified in paragraphs (b)(9)(iii), (c)(2)(ix), (e)(2)(i), (e)(2)(ii)(A), (e)(2)(ii)(C), (e)(2)(ii)(D), (e)(2)(iv)(A), (e)(2)(iv)(C), (e)(2)(iv)(F), and (e)(2)(ix)(D) through (F) of this section, you must keep a record of the file generated by the verification software for the applicable data specified in paragraphs (b)(1) through (36) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (b)(1) through (36) of this section.

(1) Mass of each solid fuel combusted (tons/year) (Equation C–1 of § 98.33).

(2) Volume of each liquid fuel combusted (gallons/year) (Equation C–1).

(3) Volume of each gaseous fuel combusted (scf/year) (Equation C–1).

(4) Annual natural gas usage (therms/year) (Equation C–1a of § 98.33).

(5) Annual natural gas usage (mmBtu/year) (Equation C–1b of § 98.33).

(6) Mass of each solid fuel combusted (tons/year) (Equation C–2a of § 98.33).

(7) Volume of each liquid fuel combusted (gallons/year) (Equation C–2a).

(8) Volume of each gaseous fuel combusted (scf/year) (Equation C–2a).

(9) Measured high heat value of each solid fuel, for month (which may be the arithmetic average of multiple determinations), or, if applicable, an appropriate substitute data value (mmBtu per ton) (Equation C–2b of § 98.33).

(10) Measured high heat value of each liquid fuel, for month (which may be the arithmetic average of multiple determinations), or, if applicable, an appropriate substitute data value (mmBtu per gallons) (Equation C–2b).

(11) Measured high heat value of each gaseous fuel, for month (which may be the arithmetic average of multiple determinations), or, if applicable, an appropriate substitute data value (mmBtu per scf) (Equation C–2b).

(12) Mass of each solid fuel combusted during month (tons) (Equation C–2b).

(13) Volume of each liquid fuel combusted during month (gallons) (Equation C–2b).

(14) Volume of each gaseous fuel combusted during month (scf) (Equation C–2b).

(15) Total mass of steam generated by municipal solid waste or each solid fuel combustion during the reporting year (pounds steam) (Equation C–2c of § 98.33).

(16) Ratio of the boiler's maximum rated heat input capacity to its design rated steam output capacity (MMBtu/pounds steam) (Equation C–2c).

(17) Annual mass of each solid fuel combusted (short tons/year) (Equation C–3 of § 98.33).

(18) Annual average carbon content of each solid fuel (percent by weight, expressed as a decimal fraction) (Equation C–3).

(19) Annual volume of each liquid fuel combusted (gallons/year) (Equation C–4 of § 98.33).

(20) Annual average carbon content of each liquid fuel (kg C per gallon of fuel) (Equation C–4).

(21) Annual volume of each gaseous fuel combusted (scf/year) (Equation C–5 of § 98.33).

(22) Annual average carbon content of each gaseous fuel (kg C per kg of fuel) (Equation C–5).

(23) Annual average molecular weight of each gaseous fuel (kg/kg-mole) (Equation C–5).

(24) Molar volume conversion factor at standard conditions, as defined in § 98.6 (scf per kg-mole) (Equation C–5).

(25) Identify for each fuel if you will use the default high heat value from Table C–1 of this subpart, or actual high heat value data (Equation C–8 of § 98.33).

(26) High heat value of each solid fuel (mmBtu/tons) (Equation C–8).

(27) High heat value of each liquid fuel (mmBtu/gallon) (Equation C–8).

(28) High heat value of each gaseous fuel (mmBtu/scf) (Equation C–8).

(29) Cumulative annual heat input from combustion of each fuel (mmBtu) (Equation C–10 of § 98.33).

(30) Total quantity of each solid fossil fuel combusted in the reporting year, as defined in § 98.6 (pounds) (Equation C–13 of § 98.33).

(31) Total quantity of each liquid fossil fuel combusted in the reporting year, as defined in § 98.6 (gallons) (Equation C–13).

(32) Total quantity of each gaseous fossil fuel combusted in the reporting year, as defined in § 98.6 (scf) (Equation C–13).

(33) High heat value of the each solid fossil fuel (Btu/lb) (Equation C–13).

(34) High heat value of the each liquid fossil fuel (Btu/gallons) (Equation C–13).

(35) High heat value of the each gaseous fossil fuel (Btu/scf) (Equation C–13).

(36) Fuel-specific carbon based F-factor per fuel (scf CO_2/mmBtu) (Equation C–13).

[79 FR 63783, Oct. 24, 2014]

§ 98.38 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE C–1 TO SUBPART C OF PART 98—DEFAULT CO_2 EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL

DEFAULT CO_2 EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL

Fuel type	Default high heat value	Default CO_2 emission factor
Coal and coke	mmBtu/short ton	kg CO_2/mmBtu
Anthracite	25.09	103.69
Bituminous	24.93	93.28
Subbituminous	17.25	97.17
Lignite	14.21	97.72
Coal Coke	24.80	113.67
Mixed (Commercial sector)	21.39	94.27
Mixed (Industrial coking)	26.28	93.90
Mixed (Industrial sector)	22.35	94.67
Mixed (Electric Power sector)	19.73	95.52
Natural gas	mmBtu/scf	kg CO_2/mmBtu
(Weighted U.S. Average)	1.026×10^{-3}	53.06
Petroleum products	mmBtu/gallon	kg CO_2/mmBtu
Distillate Fuel Oil No. 1	0.139	73.25
Distillate Fuel Oil No. 2	0.138	73.96
Distillate Fuel Oil No. 4	0.146	75.04
Residual Fuel Oil No. 5	0.140	72.93
Residual Fuel Oil No. 6	0.150	75.10
Used Oil	0.138	74.00
Kerosene	0.135	75.20
Liquefied petroleum gases (LPG) [1]	0.092	61.71
Propane [1]	0.091	62.87
Propylene [2]	0.091	67.77
Ethane [1]	0.068	59.60
Ethanol	0.084	68.44
Ethylene [2]	0.058	65.96
Isobutane [1]	0.099	64.94
Isobutylene [1]	0.103	68.86
Butane [1]	0.103	64.77
Butylene [1]	0.105	68.72
Naphtha (<401 deg F)	0.125	68.02
Natural Gasoline	0.110	66.88
Other Oil (>401 deg F)	0.139	76.22
Pentanes Plus	0.110	70.02
Petrochemical Feedstocks	0.125	71.02
Petroleum Coke	0.143	102.41
Special Naphtha	0.125	72.34
Unfinished Oils	0.139	74.54
Heavy Gas Oils	0.148	74.92
Lubricants	0.144	74.27
Motor Gasoline	0.125	70.22
Aviation Gasoline	0.120	69.25
Kerosene-Type Jet Fuel	0.135	72.22

DEFAULT CO_2 EMISSION FACTORS AND HIGH HEAT VALUES FOR VARIOUS TYPES OF FUEL—Continued

Fuel type	Default high heat value	Default CO_2 emission factor
Asphalt and Road Oil	0.158	75.36
Crude Oil	0.138	74.54
Other fuels—solid	mmBtu/short ton	kg CO_2/mmBtu
Municipal Solid Waste	9.95 [3]	90.7
Tires	28.00	85.97
Plastics	38.00	75.00
Petroleum Coke	30.00	102.41
Other fuels—gaseous	mmBtu/scf	kg CO_2/mmBtu
Blast Furnace Gas	0.092×10^{-3}	274.32
Coke Oven Gas	0.599×10^{-3}	46.85
Propane Gas	2.516×10^{-3}	61.46
Fuel Gas [4]	1.388×10^{-3}	59.00
Biomass fuels—solid	mmBtu/short ton	kg CO_2/mmBtu
Wood and Wood Residuals (dry basis) [5]	17.48	93.80
Agricultural Byproducts	8.25	118.17
Peat	8.00	111.84
Solid Byproducts	10.39	105.51
Biomass fuels—gaseous	mmBtu/scf	kg CO_2/mmBtu
Landfill Gas	0.485×10^{-3}	52.07
Other Biomass Gases	0.655×10^{-3}	52.07
Biomass Fuels—Liquid	mmBtu/gallon	kg CO_2/mmBtu
Ethanol	0.084	68.44
Biodiesel (100%)	0.128	73.84
Rendered Animal Fat	0.125	71.06
Vegetable Oil	0.120	81.55

[1] The HHV for components of LPG determined at 60 °F and saturation pressure with the exception of ethylene.
[2] Ethylene HHV determined at 41 °F (5 °C) and saturation pressure.
[3] Use of this default HHV is allowed only for: (a) Units that combust MSW, do not generate steam, and are allowed to use Tier 1; (b) units that derive no more than 10 percent of their annual heat input from MSW and/or tires; and (c) small batch incinerators that combust no more than 1,000 tons of MSW per year.
[4] Reporters subject to subpart X of this part that are complying with § 98.243(d) or subpart Y of this part may only use the default HHV and the default CO_2 emission factor for fuel gas combustion under the conditions prescribed in § 98.243(d)(2)(i) and (d)(2)(ii) and § 98.252(a)(1) and (a)(2), respectively. Otherwise, reporters subject to subpart X or subpart Y shall use either Tier 3 (Equation C–5) or Tier 4.
[5] Use the following formula to calculate a wet basis HHV for use in Equation C–1: $HHV_w = ((100 - M)/100)*HHV_d$ where HHV_w = wet basis HHV, M = moisture content (percent) and HHV_d = dry basis HHV from Table C–1.

[78 FR 71950, Nov. 29, 2013]

TABLE C–2 TO SUBPART C OF PART 98—DEFAULT CH_4 AND N_2O EMISSION FACTORS FOR VARIOUS TYPES OF FUEL

Fuel type	Default CH_4 emission factor (kg CH_4/mmBtu)	Default N_2O emission factor (kg N_2O/mmBtu)
Coal and Coke (All fuel types in Table C–1)	1.1×10^{-02}	1.6×10^{-03}
Natural Gas	1.0×10^{-03}	1.0×10^{-04}
Petroleum (All fuel types in Table C–1)	3.0×10^{-03}	6.0×10^{-04}
Fuel Gas	3.0×10^{-03}	6.0×10^{-04}
Municipal Solid Waste	3.2×10^{-02}	4.2×10^{-03}
Tires	3.2×10^{-02}	4.2×10^{-03}
Blast Furnace Gas	2.2×10^{-05}	1.0×10^{-04}
Coke Oven Gas	4.8×10^{-04}	1.0×10^{-04}
Biomass Fuels—Solid (All fuel types in Table C–1, except wood and wood residuals).	3.2×10^{-02}	4.2×10^{-03}
Wood and wood residuals	7.2×10^{-03}	3.6×10^{-03}
Biomass Fuels—Gaseous (All fuel types in Table C–1)	3.2×10^{-03}	6.3×10^{-04}

Fuel type	Default CH_4 emission factor (kg CH_4/mmBtu)	Default N_2O emission factor (kg N_2O/mmBtu)
Biomass Fuels—Liquid (All fuel types in Table C–1)	1.1×10^{-03}	1.1×10^{-04}

Note: Those employing this table are assumed to fall under the IPCC definitions of the "Energy Industry" or "Manufacturing Industries and Construction". In all fuels except for coal the values for these two categories are identical. For coal combustion, those who fall within the IPCC "Energy Industry" category may employ a value of 1g of CH_4/mmBtu.

[78 FR 71952, Nov. 29, 2013]

Subpart D—Electricity Generation

§ 98.40 Definition of the source category.

(a) The electricity generation source category comprises electricity generating units that are subject to the requirements of the Acid Rain Program and any other electricity generating units that are required to monitor and report to EPA CO_2 mass emissions year-round according to 40 CFR part 75.

(b) This source category does not include portable equipment, emergency equipment, or emergency generators, as defined in § 98.6.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79155, Dec. 17, 2010]

§ 98.41 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains one or more electricity generating units and the facility meets the requirements of § 98.2(a)(1).

§ 98.42 GHGs to report.

(a) For each electricity generating unit that is subject to the requirements of the Acid Rain Program or is otherwise required to monitor and report to EPA CO_2 emissions year-round according to 40 CFR part 75, you must report under this subpart the annual mass emissions of CO_2, N_2O, and CH_4 by following the requirements of this subpart.

(b) For each electricity generating unit that is not subject to the Acid Rain Program or otherwise required to monitor and report to EPA CO_2 emissions year-round according to 40 CFR part 75, you must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, CH_4, and N_2O by following the requirements of subpart C.

(c) For each stationary fuel combustion unit that does not generate electricity, you must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, CH_4, and N_2O by following the requirements of subpart C of this part.

§ 98.43 Calculating GHG emissions.

(a) Except as provided in paragraph (b) of this section, continue to monitor and report CO_2 mass emissions as required under § 75.13 or section 2.3 of appendix G to 40 CFR part 75, and § 75.64. Calculate CO_2, CH_4, and N_2O emissions as follows:

(1) Convert the cumulative annual CO_2 mass emissions reported in the fourth quarter electronic data report required under § 75.64 from units of short tons to metric tons. To convert tons to metric tons, divide by 1.1023.

(2) Calculate and report annual CH_4 and N_2O mass emissions under this subpart by following the applicable method specified in § 98.33(c).

(b) Calculate and report biogenic CO_2 emissions under this subpart by following the applicable methods specified in § 98.33(e). The CO_2 emissions (excluding biogenic CO_2) for units subject to this subpart that are reported under §§ 98.3(c)(4)(i) and (c)(4)(iii)(B) shall be calculated by subtracting the biogenic CO_2 mass emissions calculated according to § 98.33(e) from the cumulative annual CO_2 mass emissions from paragraph (a)(1) of this section. Separate calculation and reporting of biogenic CO_2 emissions is optional only for the 2010 reporting year pursuant to § 98.3(c)(12) and required every year thereafter.

[75 FR 79155, Dec. 17, 2010]

§ 98.44 Monitoring and QA/QC requirements.

Follow the applicable quality assurance procedures for CO_2 emissions in appendices B, D, and G to 40 CFR part 75.

§ 98.45 Procedures for estimating missing data.

Follow the applicable missing data substitution procedures in 40 CFR part 75 for CO_2 concentration, stack gas flow rate, fuel flow rate, high heating value, and fuel carbon content.

§ 98.46 Data reporting requirements.

The annual report shall comply with the data reporting requirements specified in § 98.36(d)(1).

[75 FR 79155, Dec. 17, 2010]

§ 98.47 Records that must be retained.

You shall comply with the recordkeeping requirements of §§ 98.3(g) and 98.37. Records retained under § 75.57(h) of this chapter for missing data events satisfy the recordkeeping requirements of § 98.3(g)(4) for those same events.

[75 FR 79155, Dec. 17, 2010]

§ 98.48 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart E—Adipic Acid Production

§ 98.50 Definition of source category.

The adipic acid production source category consists of all adipic acid production facilities that use oxidation to produce adipic acid.

§ 98.51 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an adipic acid production process and the facility meets the requirements of either § 98.2(a)(1) or (2).

§ 98.52 GHGs to report.

(a) You must report N_2O process emissions at the facility level.

(b) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, CH_4, and N_2O from each stationary combustion unit following the requirements of subpart C.

§ 98.53 Calculating GHG emissions.

(a) You must determine annual N_2O emissions from adipic acid production according to paragraphs (a)(1) or (2) of this section.

(1) Use a site-specific emission factor and production data according to paragraphs (b) through (i) of this section.

(2) Request Administrator approval for an alternative method of determining N_2O emissions according to paragraphs (a)(2)(i) and (ii) of this section.

(i) You must submit the request within 45 days following promulgation of this subpart or within the first 30 days of each subsequent reporting year.

(ii) If the Administrator does not approve your requested alternative method within 150 days of the end of the reporting year, you must determine the N_2O emissions for the current reporting period using the procedures specified in paragraphs (b) through (h) of this section.

(b) You must conduct an annual performance test according to paragraphs (b)(1) through (3) of this section.

(1) You must conduct the test on the vent stream from the nitric acid oxidation step of the process, referred to as the test point, according to the methods specified in § 98.54(b) through (f). If multiple adipic acid production units exhaust to a common abatement technology and/or emission point, you must sample each process in the ducts before the emissions are combined, sample each process when only one process is operating, or sample the combined emissions when multiple processes are operating and base the site-specific emission factor on the combined production rate of the multiple adipic acid production units.

(2) You must conduct the performance test under normal process operating conditions.

(3) You must measure the adipic acid production rate during the test and calculate the production rate for the test period in tons per hour.

(c) Using the results of the performance test in paragraph (b) of this section, you must calculate an emission

factor for each adipic acid unit according to Equation E–1 of this section:

$$EF_{N2O,z} = \frac{\sum_{1}^{n} \frac{C_{N2O} * 1.14 \times 10^{-7} * Q}{P}}{n} \qquad \text{(Eq. E-1)}$$

where:

$EF_{N_2O,z}$ = Average facility-specific N_2O emission factor for each adipic acid production unit ''z'' (lb N_2O/ton adipic acid produced).

C_{N_2O} = N_2O concentration per test run during the performance test (ppm N_2O).

1.14×10^{-7} = Conversion factor (lb/dscf-ppm N_2O).

Q = Volumetric flow rate of effluent gas per test run during the performance test (dscf/hr).

P = Production rate per test run during the performance test (tons adipic acid produced/hr).

n = Number of test runs.

(d) If the adipic acid production unit exhausts to any N_2O abatement technology ''N'', you must determine the destruction efficiency according to paragraphs (d)(1), (d)(2), or (d)(3) of this section.

(1) Use the manufacturer's specified destruction efficiency.

(2) Estimate the destruction efficiency through process knowledge. Examples of information that could constitute process knowledge include calculations based on material balances, process stoichiometry, or previous test results provided the results are still relevant to the current vent stream conditions. You must document how process knowledge was used to determine the destruction efficiency.

(3) Calculate the destruction efficiency by conducting an additional performance test on the vent stream following the N_2O abatement technology.

(e) If the adipic acid production unit exhausts to any N_2O abatement technology ''N'', you must determine the annual amount of adipic acid produced while N_2O abatement technology ''N'' is operating according to § 98.54(f). Then you must calculate the abatement factor for N_2O abatement technology ''N'' according to Equation E–2 of this section.

$$AF_N = \frac{P_{z,N}}{P_z} \qquad \text{(Eq. E-2)}$$

(f) You must determine the annual amount of adipic acid produced according to § 98.54(f).

(g) You must calculate N_2O emissions according to paragraph (g)(1), (2), (3), or (4) of this section for each adipic acid production unit.

(1) If one N_2O abatement technology ''N'' is located after your test point, you must use the emissions factor (determined in Equation E–1 of this section), the destruction efficiency (determined in paragraph (d) of this section), the annual adipic acid production (determined in paragraph (f) of this section), and the abatement utilization factor (determined in paragraph (e) of this section), according to Equation E–3a of this section:

$$E_{a,z} = \frac{EF_{N20,z} * P_z}{2205} * \left(1 - \left(DF * AF\right)\right) \qquad \text{(Eq. E-3a)}$$

where:

$E_{a,z}$ = Annual N_2O mass emissions from adipic acid production unit ''z'' according to this Equation E–3a (metric tons).

EF_{N_2Oz} = N_2O emissions factor for unit ''z'' (lb N_2O/ton adipic acid produced).

P_z = Annual adipic acid produced from unit ''z'' (tons).

DF = Destruction efficiency of N_2O abatement technology ''N'' (decimal fraction of N_2O removed from vent stream).

AF = Abatement utilization factor of N_2O abatement technology ''N'' (decimal fraction of time that the abatement technology is operating).

2205 = Conversion factor (lb/metric ton).

(2) If multiple N_2O abatement technologies are located in series after your test point, you must use the emissions factor (determined in Equation E–1 of this section), the destruction efficiency (determined in paragraph (d) of this section), the annual adipic acid production (determined in paragraph (f) of this section), and the abatement utilization factor (determined in paragraph (e) of this section), according to Equation E–3b of this section:

$$E_{b,z} = \frac{EF_{N20,z} * P_z}{2205} * (1 - (DF_1 * AF_1)) * (1 - (DF_2 * AF_2)) * \ldots * (1 - (DF_N * AF_N)) \qquad \text{(Eq. E-3b)}$$

where:

$E_{b,z}$ = Annual N_2O mass emissions from adipic acid production unit ''z'' according to this Equation E–3b (metric tons).

$EF_{N_2O,z}$ = N_2O emissions factor for unit ''z'' (lb N_2O/ton adipic acid produced).

P_z = Annual adipic acid produced from unit ''z'' (tons).

DF_1 = Destruction efficiency of N_2O abatement technology 1 (decimal fraction of N_2O removed from vent stream).

AF_1 = Abatement utilization factor of N_2O abatement technology 1 (decimal fraction of time that abatement technology 1 is operating).

DF_2 = Destruction efficiency of N_2O abatement technology 2 (decimal fraction of N_2O removed from vent stream).

AF_2 = Abatement utilization factor of N_2O abatement technology 2 (decimal fraction of time that abatement technology 2 is operating).

DF_N = Destruction efficiency of N_2O abatement technology ''N'' (decimal fraction of N_2O removed from vent stream).

AF_N = Abatement utilization factor of N_2O abatement technology ''N'' (decimal fraction of time that abatement technology N is operating).

2205 = Conversion factor (lb/metric ton).

N = Number of different N_2O abatement technologies.

(3) If multiple N_2O abatement technologies are located in parallel after your test point, you must use the emissions factor (determined in Equation E–1 of this section), the destruction efficiency (determined in paragraph (d) of this section), the annual adipic acid production (determined in paragraph (f) of this section), and the abatement utilization factor (determined in paragraph (e) of this section), according to Equation E–3c of this section:

$$E_{c,z} = \frac{EF_{N20,z} * P_z}{2205} * \sum_{1}^{N} \left(\left(1 - \left(DF_N * AF_N\right)\right) * FC_N\right) \qquad \text{(Eq. E-3c)}$$

where:

$E_{c,z}$ = Annual N_2O mass emissions from adipic acid production unit ''z'' according to this Equation E–3c (metric tons).

$EF_{N_2O,z}$ = N_2O emissions factor for unit ''z'' (lb N_2O/ton adipic acid produced).
P_z = Annual adipic acid produced from unit ''z'' (tons).
DF_N = Destruction efficiency of N_2O abatement technology ''N'' (decimal fraction of N_2O removed from vent stream).
AF_N = Abatement utilization factor of N_2O abatement technology ''N'' (decimal fraction of time that the abatement technology is operating).
FC_N = Fraction control factor of N_2O abatement technology ''N'' (decimal fraction of total emissions from unit ''z'' that are sent to abatement technology ''N'').
2205 = Conversion factor (lb/metric ton).
N = Number of different N_2O abatement technologies with a fraction control factor.

(4) If no N_2O abatement technologies are located after your test point, you must use the emissions factor (determined using Equation E–1 of this section) and the annual adipic acid production (determined in paragraph (f) of this section) according to Equation E–3d of this section for each adipic acid production unit.

$$E_{d,z} = \frac{EF_{N20} * P_z}{2205} \qquad \text{(Eq. E-3d)}$$

where:

$E_{d,z}$ = Annual N_2O mass emissions from adipic acid production for unit ''z'' according to this Equation E–3d (metric tons).
EF_{N_2O} = N_2O emissions factor for unit ''z'' (lb N_2O/ton adipic acid produced).
P_Z = Annual adipic acid produced from unit ''z'' (tons).
2205 = Conversion factor (lb/metric ton).

(h) You must determine the emissions for the facility by summing the unit level emissions according to Equation E–4 of this section.

$$N_2O = \sum_{z=1}^{M} E_{a,z} + E_{b,z} + E_{c,z} + E_{d,z} \qquad \text{(Eq. E-4)}$$

where:

$E_{a,z}$ = Annual N_2O mass emissions from adipic acid production unit ''z'' according to Equation E–3a of this section (metric tons).
$E_{b,z}$ = Annual N_2O mass emissions from adipic acid production unit ''z'' according to Equation E–3b of this section (metric tons).
$E_{c,z}$ = Annual N_2O mass emissions from adipic acid production unit ''z'' according to Equation E–3c of this section (metric tons).
$E_{d,z}$ = Annual N_2O mass emissions from adipic acid production unit ''z'' according to Equation E–3d of this section (metric tons).
M = Total number of adipic acid production units.

(i) You must determine the amount of process N_2O emissions that is sold or transferred off site (if applicable). You can determine the amount using existing process flow meters and N_2O analyzers.

[75 FR 66458, Oct. 28, 2010, as amended at 78 FR 71952, Nov. 29, 2013]

§ 98.54 Monitoring and QA/QC requirements.

(a) You must conduct a new performance test and calculate a new emissions factor for each adipic acid production unit according to the frequency specified in paragraphs (a)(1) through (3) of this section.

(1) Conduct the performance test annually. The test must be conducted at a point during production that is representative of the average emissions rate from your process. You must document the methods used to determine the representative point.

(2) Conduct the performance test when your adipic acid production process is changed either by altering the ratio of cyclohexanone to cyclohexanol or by installing abatement equipment.

(3) If you requested Administrator approval for an alternative method of determining N_2O emissions under § 98.53(a)(2), you must conduct the performance test if your request has not been approved by the Administrator within 150 days of the end of the reporting year in which it was submitted.

(b) You must measure the N_2O concentration during the performance test using one of the methods in paragraphs (b)(1) through (b)(3) of this section.

(1) EPA Method 320, Measurement of Vapor Phase Organic and Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectroscopy in 40 CFR part 63, Appendix A;

(2) ASTM D6348–03 Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy (incorporated by reference, *see* § 98.7); or

(3) An equivalent method, with Administrator approval.

(c) You must determine the adipic acid production rate during the performance test according to paragraph (c)(1) or (c)(2) of this section.

(1) Direct measurement (such as using flow meters or weigh scales).

(2) Existing plant procedures used for accounting purposes.

(d) You must determine the volumetric flow rate during the performance test in conjunction with the applicable EPA methods in 40 CFR part 60, appendices A–1 through A–4. Conduct three emissions test runs of 1 hour each. All QA/QC procedures specified in the reference test methods and any associated performance specifications apply. For each test, the facility must prepare an emissions factor determination report that must include the items in paragraphs (d)(1) through (d)(3) of this section:

(1) Analysis of samples, determination of emissions, and raw data.

(2) All information and data used to derive the emissions factor.

(3) The production rate(s) during the performance test and how each production rate was determined.

(e) You must determine the monthly amount of adipic acid produced. You must also determine the monthly amount of adipic acid produced during which N_2O abatement technology is operating. These monthly amounts are determined according to the methods in paragraphs (c)(1) or (c)(2) of this section.

(f) You must determine the annual amount of adipic acid produced. You must also determine the annual amount of adipic acid produced during which N_2O abatement technology is operating. These are determined by summing the respective monthly adipic acid production quantities determined in paragraph (e) of this section.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66460, Oct. 28, 2010; 78 FR 71953, Nov. 29, 2013]

§ 98.55 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in paragraphs (a) and (b) of this section.

(a) For each missing value of monthly adipic acid production, the substitute data shall be the best available estimate based on all available process data or data used for accounting purposes (such as sales records).

(b) For missing values related to the performance test, including emission factors, production rate, and N_2O concentration, you must conduct a new performance test according to the procedures in § 98.54 (a) through (d).

§ 98.56 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) through (n) of this section at the facility level.

(a) Annual process N_2O emissions from adipic acid production (metric tons).

(b)–(c) [Reserved]

(d) Annual process N_2O emissions from adipic acid production facility that is sold or transferred off site (metric tons).

(e) Number of abatement technologies (if applicable).

(f) Types of abatement technologies used (if applicable).

(g) Abatement technology destruction efficiency for each abatement technology (percent destruction).

(h) Abatement utilization factor for each abatement technology (fraction of annual production that abatement technology is operating).

(i) Number of times in the reporting year that missing data procedures were followed to measure adipic acid production (months).

(j) If you conducted a performance test and calculated a site-specific emissions factor according to § 98.53(a)(1), each annual report must also contain the information specified in paragraphs (j)(1) through (7) of this section for each adipic acid production unit.

(1) [Reserved]

(2) Test method used for performance test.

(3) [Reserved]

(4) N_2O concentration per test run during performance test (ppm N_2O).

(5) Volumetric flow rate per test run during performance test (dscf/hr).

(6) Number of test runs.

(7) Number of times in the reporting year that a performance test had to be repeated (number).

(k) If you requested Administrator approval for an alternative method of determining N_2O emissions under § 98.53(a)(2), each annual report must also contain the information specified in paragraphs (k)(1) through (4) of this section for each adipic acid production facility.

(1) Name of alternative method.

(2) Description of alternative method.

(3) Request date.

(4) Approval date.

(l) Fraction control factor for each abatement technology (percent of total emissions from the production unit that are sent to the abatement technology) if equation E–3c is used.

(m) If only cyclohexane is oxidized to produce adipic acid and the quantity is known, report the information specified in paragraph (m)(1) of this section. If materials other than cyclohexane are oxidized to produce adipic acid, report the information specified in paragraph (m)(2) of this section.

(1) Annual quantity of cyclohexane (tons) used to produce adipic acid.

(2) Annual quantity of cyclohexanone and cyclohexanol mixture (tons) used to produce adipic acid.

(n) Annual percent N_2O emission reduction for all production units combined.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66460, Oct. 28, 2010; 79 FR 63784, Oct. 24, 2014]

§ 98.57 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain the records specified in paragraphs (a) through (i) of this section at the facility level:

(a) Annual adipic acid production capacity (tons).

(b) Records of significant changes to process.

(c) Number of facility and unit operating hours in calendar year.

(d) Documentation of how accounting procedures were used to estimate production rate.

(e) Documentation of how process knowledge was used to estimate abatement technology destruction efficiency.

(f) Performance test reports.

(g) Measurements, records and calculations used to determine reported parameters.

(h) Documentation of the procedures used to ensure the accuracy of the measurements of all reported parameters, including but not limited to, calibration of weighing equipment, flow meters, and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

(i) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (i)(1) through (3) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (i)(1) through (3) of this section.

(1) Annual adipic acid production from each adipic acid production unit (tons) (Equations E–2, E–3a, E–3b, E–3c, and E–3d of § 98.53).

(2) Production rate per test run during the performance test for each production unit test run (tons adipic acid produced/hr) (Equation E–1 of § 98.53).

(3) Annual adipic acid production per N_2O abatement technology during which N_2O abatement technology was used (tons adipic acid produced) (Equation E–2).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66461, Oct. 28, 2010; 79 FR 63784, Oct. 24, 2014]

§98.58 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart F—Aluminum Production

§98.60 Definition of the source category.

(a) A primary aluminum production facility manufactures primary aluminum using the Hall-Héroult manufacturing process. The primary aluminum manufacturing process comprises the following operations:

(1) Electrolysis in prebake and Søderberg cells.

(2) Anode baking for prebake cells.

(b) This source category does not include experimental cells or research and development process units.

§98.61 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an aluminum production process and the facility meets the requirements of either §98.2(a)(1) or (a)(2).

§98.62 GHGs to report.

You must report:

(a) Perfluoromethane (CF_4), and perfluoroethane (C_2F_6) emissions from anode effects in all prebake and Søderberg electrolysis cells.

(b) CO_2 emissions from anode consumption during electrolysis in all prebake and Søderberg electrolysis cells.

(c) CO_2 emissions from on-site anode baking.

(d) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, N_2O, and CH_4 emissions from each stationary fuel combustion unit by following the requirements of subpart C.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79155, Dec. 17, 2010]

§98.63 Calculating GHG emissions.

(a) The annual value of each PFC compound (CF_4, C_2F_6) shall be estimated from the sum of monthly values using Equation F–1 of this section:

$$E_{PFC} = \sum_{m=1}^{m=12} E_m \qquad \text{(Eq. F-1)}$$

Where:

E_{PFC} = Annual emissions of each PFC compound from aluminum production (metric tons PFC).

E_m = Emissions of the individual PFC compound from aluminum production for the month ''m'' (metric tons PFC).

(b) Use Equation F–2 of this section to estimate CF_4 emissions from anode effect duration or Equation F–3 of this section to estimate CF_4 emissions from overvoltage, and use Equation F–4 of this section to estimate C_2F_6 emissions from anode effects from each prebake and Søderberg electrolysis cell.

$$E_{CF4} = S_{CF4} \times AEM \times MP \times 0.001 \qquad \text{(Eq. F-2)}$$

Where:

E_{CF4} = Monthly CF_4 emissions from aluminum production (metric tons CF_4).

S_{CF4} = The slope coefficient ((kg CF_4/metric ton Al)/(AE-Mins/cell-day)).

AEM = The anode effect minutes per cell-day (AE-Mins/cell-day).

MP = Metal production (metric tons Al), where AEM and MP are calculated monthly.

$$E_{CF4} = EF_{CF4} \times MP \times 0.001 \qquad \text{(Eq. F-3)}$$

Where:

E_{CF4} = Monthly CF_4 emissions from aluminum production (metric tons CF_4).

EF_{CF4} = The overvoltage emission factor (kg CF_4/metric ton Al).

MP = Metal production (metric tons Al), where MP is calculated monthly.

$$E_{C2F6} = E_{CF4} \times F_{C2F6/CF4} \times 0.001 \qquad \text{(Eq. F-4)}$$

Where:

E_{C2F6} = Monthly C_2F_6 emissions from aluminum production (metric tons C_2F_6).

E_{CF4} = CF_4 emissions from aluminum production (kg CF_4).

$F_{C2F6/CF4}$ = The weight fraction of C_2F_6/CF_4 (kg C_2F_6/kg CF_4).

0.001 = Conversion factor from kg to metric tons, where E_{CF4} is calculated monthly.

(c) You must calculate and report the annual process CO_2 emissions from anode consumption during electrolysis and anode baking of prebake cells using either the procedures in paragraph (d) of this section, the procedures in paragraphs (e) and (f) of this section, or the procedures in paragraph (g) of this section.

(d) Calculate and report under this subpart the process CO_2 emissions by operating and maintaining CEMS according to the Tier 4 Calculation Methodology in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(e) Use the following procedures to calculate CO_2 emissions from anode consumption during electrolysis:

(1) For Prebake cells: you must calculate CO_2 emissions from anode consumption using Equation F–5 of this section:

$$E_{CO2} = NAC \times MP \times \left(\left[100 - S_a - Ash_a\right]/100\right) \times (44/12) \qquad \text{(Eq. F-5)}$$

Where:

E_{CO2} = Annual CO_2 emissions from prebaked anode consumption (metric tons CO_2).

NAC = Net annual prebaked anode consumption per metric ton Al (metric tons C/metric tons Al).

MP = Annual metal production (metric tons Al).

S_a = Sulfur content in baked anode (percent weight).

Ash_a = Ash content in baked anode (percent weight).

44/12 = Ratio of molecular weights, CO_2 to carbon.

(2) For Søderberg cells you must calculate CO_2 emissions using Equation F–6 of this section:

$$E_{CO2} = (PC \times MP - [CSM \times MP]/1000 - BC/100 \times PC \times MP \times \left[S_p + Ash_p + H_p\right]/100 - [100 - BC]/100 \times PC \times MP \times [S_c + Ash_c]/100 - MP \times CD) \times (44/12) \qquad \text{(Eq. F-6)}$$

Where:

E_{CO2} = Annual CO_2 emissions from paste consumption (metric ton CO_2).

PC = Annual paste consumption (metric ton/metric ton Al).

MP = Annual metal production (metric ton Al).

CSM = Annual emissions of cyclohexane soluble matter (kg/metric ton Al).

BC = Binder content of paste (percent weight).

S_p = Sulfur content of pitch (percent weight).

Ash_p = Ash content of pitch (percent weight).

H_p = Hydrogen content of pitch (percent weight).

S_c = Sulfur content in calcined coke (percent weight).

Ash_c = Ash content in calcined coke (percent weight).

CD = Carbon in skimmed dust from Søderberg cells (metric ton C/metric ton Al).

44/12 = Ratio of molecular weights, CO_2 to carbon.

(f) Use the following procedures to calculate CO_2 emissions from anode baking of prebake cells:

(1) Use Equation F–7 of this section to calculate emissions from pitch volatiles combustion.

$$E_{CO2PV} = \left(GA - H_w - BA - WT\right) \times (44/12) \qquad \text{(Eq. F-7)}$$

Where:

E_{CO2PV} = Annual CO_2 emissions from pitch volatiles combustion (metric tons CO_2).

GA = Initial weight of green anodes (metric tons).

H_w = Annual hydrogen content in green anodes (metric tons).

BA = Annual baked anode production (metric tons).

WT = Annual waste tar collected (metric tons).

44/12 = Ratio of molecular weights, CO_2 to carbon.

(2) Use Equation F–8 of this section to calculate emissions from bake furnace packing material.

$$E_{CO2PC} = PCC \times BA \times \left(\left[100 - S_{pc} - Ash_{pc}\right]/100\right) \times (44/12) \qquad \text{(Eq. F-8)}$$

Where:

E_{CO2PC} = Annual CO_2 emissions from bake furnace packing material (metric tons CO_2).

PCC = Annual packing coke consumption (metric tons/metric ton baked anode).

BA = Annual baked anode production (metric tons).

S_{pc} = Sulfur content in packing coke (percent weight).

Ash_{pc} = Ash content in packing coke (percent weight).

44/12 = Ratio of molecular weights, CO_2 to carbon.

(g) If process CO_2 emissions from anode consumption during electrolysis or anode baking of prebake cells are vented through the same stack as any combustion unit or process equipment that reports CO_2 emissions using a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Fuel Combustion Sources), then the calculation methodology in paragraphs (d) and (e) of this section shall not be used to calculate those process emissions. The owner or operation shall report under this subpart the combined stack emissions according to the Tier 4 Calculation Methodology in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79155, Dec. 17, 2010]

§98.64 Monitoring and QA/QC requirements.

(a) Effective December 31, 2010 for smelters with no prior measurement or effective December 31, 2012, for facilities with historic measurements, the smelter-specific slope coefficients, overvoltage emission factors, and weight fractions used in Equations F–2, F–3, and F–4 of this subpart must be measured in accordance with the recommendations of the EPA/IAI Protocol for Measurement of Tetrafluoromethane (CF_4) and Hexafluoroethane (C_2F_6) Emissions from Primary Aluminum Production (2008) (incorporated by reference, see §98.7), except the minimum frequency of measurement shall be every 10 years unless a change occurs in the control algorithm that affects the mix of types of anode effects or the nature of the anode effect termination routine.Facilities which operate at less than 0.2 anode effect minutes per cell day or operate with less than 1.4mV anode effect overvoltage can use either smelter-specific slope coefficients or

the technology specific default values in Table F–1 of this subpart.

(b) The minimum frequency of the measurement and analysis is annually except as follows:

(1) Monthly for anode effect minutes per cell day (or anode effect overvoltage and current efficiency).

(2) Monthly for aluminum production.

(3) Smelter-specific slope coefficients, overvoltage emission factors, and weight fractions according to paragraph (a) of this section.

(c) Sources may use either smelter-specific values from annual measurements of parameters needed to complete the equations in § 98.63 (e.g., sulfur, ash, and hydrogen contents) or the default values shown in Table F–2 of this subpart.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79155, Dec. 17, 2010]

§ 98.65 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable (e.g., if a meter malfunctions during unit operation or if a required sample measurement is not taken), a substitute data value for the missing parameter shall be used in the calculations, according to the following requirements:

(a) Where anode or paste consumption data are missing, CO_2 emissions can be estimated from aluminum production per Equation F–8 of this section.

$$ECO_2 = EF_p \times MP_p + EF_s \times MP_s \qquad \text{(Eq. F-8)}$$

Where:

ECO_2 = CO_2 emissions from anode and/or paste consumption, metric tons CO_2.

EF_p = Prebake technology specific emission factor (1.6 metric tons CO_2/metric ton aluminum produced).

MP_p = Metal production from prebake process (metric tons Al).

EF_s = Søderberg technology specific emission factor (1.7 metric tons CO_2/metric ton Al produced).

MP_s = Metal production from Søderberg process (metric tons Al).

(b) For other parameters, use the average of the two most recent data points after the missing data.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79156, Dec. 17, 2010]

§ 98.66 Data reporting requirements.

In addition to the information required by § 98.3(c), you must report the following information at the facility level:

(a) [Reserved]

(b) Type of smelter technology used.

(c) The following PFC-specific information on an annual basis:

(1) Perfluoromethane emissions and perfluoroethane emissions from anode effects in all prebake and all Søderberg electrolysis cells combined.

(2) [Reserved]

(3) The last date when the smelter-specific-slope coefficients (or overvoltage emission factors) were measured.

(d) Method used to measure the frequency and duration of anode effects (or overvoltage).

(e) The following CO_2-specific information for prebake cells:

(1) Annual anode consumption if using the method in § 98.63(g).

(2) Annual CO_2 emissions from the smelter.

(f) The following CO_2-specific information for Søderberg cells:

(1) Annual paste consumption if using the method in § 98.63(g).

(2) Annual CO_2 emissions from the smelter.

(g) [Reserved]

(h) Exact data elements required will vary depending on smelter technology (e.g., point-feed prebake or Søderberg)

and process control technology (e.g., Pechiney or other).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79156, Dec. 17, 2010; 79 FR 63784, Oct. 24, 2014]

§ 98.67 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain the following records:

(a) Monthly aluminum production in metric tons.

(b) Type of smelter technology used.

(c) The following PFC-specific information on a monthly basis:

(1) Perfluoromethane and perfluoroethane emissions from anode effects in prebake and Søderberg electolysis cells.

(2) Anode effect minutes per cell-day (AE-mins/cell-day), anode effect frequency (AE/cell-day), anode effect duration (minutes). (Or anode effect overvoltage factor ((kg CF_4/metric ton Al)/(mV/cell day)), potline overvoltage (mV/cell day), current efficiency (%).))

(3) Smelter-specific slope coefficients and the last date when the smelter-specific-slope coefficients were measured.

(d) Method used to measure the frequency and duration of anode effects (or to measure anode effect overvoltage and current efficiency).

(e) The following CO_2-specific information for prebake cells:

(1) Annual anode consumption.

(2) Annual CO_2 emissions from the smelter.

(f) The following CO_2-specific information for Søderberg cells:

(1) Annual paste consumption.

(2) Annual CO_2 emissions from the smelter.

(g) Smelter-specific inputs to the CO_2 process equations (e.g., levels of sulfur and ash) that were used in the calculation, on an annual basis.

(h) Exact data elements required will vary depending on smelter technology (e.g., point-feed prebake or Søderberg) and process control technology (e.g., Pechiney or other).

(i) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (i)(1) through (30) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (i)(1) through (30) of this section.

(1) Slope coefficient per potline per month (kg CF_4/metric ton Al)/(AE-Mins/cell-day)) (Equation F–2 of § 98.63).

(2) Anode effect minutes per cell-day per potline per month (AE-Mins/cell-day) (Equation F–2).

(3) Anode effect frequency per potline per month (AE/cell-day) (Equation F–2).

(4) Anode effect duration per potline per month (minutes) (Equation F–2).

(5) Metal production of aluminum per potline per month (metric tons) (Equation F–2).

(6) Overvoltage emission factor per potline per month (kg CF4/metric ton Al) (Equation F–3 of § 98.63).

(7) Metal production of aluminum per potline per month (metric tons) (Equation F–3).

(8) Weight fraction of C_2F6/CF_4 per potline per month (kg C_2F_6/kg CF_4) (Equation F–4 of § 98.63).

(9) Net annual prebaked anode consumption (metric tons C/metric tons Al) (Equation F–5 of § 98.63).

(10) Annual metal production of aluminum (metric tons) (Equation F–5).

(11) Sulfur content in baked anode (weight percent) (Equation F–5).

(12) Ash content in baked anode (weight percent) (Equation F–5).

(13) Annual paste consumption (metric ton/metric ton Al) (Equation F–6 of § 98.63).

(14) Annual metal production of aluminum (metric tons) (Equation F–6).

(15) Annual emissions of cyclohexane soluble matter (kg/metric ton Al) (Equation F–6).

(16) Binder content of paste (weight percent) (Equation F–6).

(17) Sulfur content of pitch (weight percent) (Equation F–6).

(18) Ash content of pitch (weight percent) (Equation F–6).

(19) Hydrogen content of pitch (weight percent) (Equation F–6).

(20) Sulfur content in calcined coke (weight percent) (Equation F–6).

(21) Ash content in calcined coke (weight percent) (Equation F–6).

(22) Carbon in skimmed dust from Søderberg cells (metric ton C/metric ton Al) (Equation F–6).

(23) Initial weight of green anodes (metric tons) (Equation F–7 of § 98.63).

(24) Annual hydrogen content in green anodes (metric tons) (Equation F–7).

(25) Annual baked anode production (metric tons) (Equation F–7).

(26) Annual waste tar collected (metric tons) (Equation F–7).

(27) Annual packing coke consumption (metric tons/metric ton baked anode) (Equation F–8 of § 98.63).

(28) Annual baked anode production (metric tons) (Equation F–8).

(29) Sulfur content in packing coke (weight percent) (Equation F–8).

(30) Ash content in packing coke (weight percent) (Equation F–8).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63784, Oct. 24, 2014]

§ 98.68 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE F–1 TO SUBPART F OF PART 98—SLOPE AND OVERVOLTAGE COEFFICIENTS FOR THE CALCULATION OF PFC EMISSIONS FROM ALUMINUM PRODUCTION

Technology	CF_4 slope coefficient [(kg CF_4/metric ton Al)/(AE–Mins/cell-day)]	CF_4 overvoltage coefficient [(kg CF_4/metric ton Al)/(mV)]	Weight fraction C_2F_6/CF_4 [(kg C_2F_6/kg CF_4)]
Center Worked Prebake (CWPB)	0.143	1.16	0.121
Side Worked Prebake (SWPB)	0.272	3.65	0.252
Vertical Stud Søderberg (VSS)	0.092	NA	0.053
Horizontal Stud Søderberg (HSS)	0.099	NA	0.085

[75 FR 79156, Dec. 17, 2010]

TABLE F–2 TO SUBPART F OF PART 98—DEFAULT DATA SOURCES FOR PARAMETERS USED FOR CO_2 EMISSIONS

Parameter	Data source
CO_2 Emissions from Prebake Cells (CWPB and SWPB)	
MP: metal production (metric tons Al)	Individual facility records.
NAC: net annual prebaked anode consumption per metric ton Al (metric tons C/metric tons Al).	Individual facility records.
S_a: sulfur content in baked anode (percent weight)	2.0.
Ash_a: ash content in baked anode (percent weight)	0.4.
CO_2 Emissions From Pitch Volatiles Combustion (CWPB and SWPB)	
MP: metal production (metric tons Al)	Individual facility records.
PC: annual paste consumption (metric ton/metric ton Al)	Individual facility records.
CSM: annual emissions of cyclohexane soluble matter (kg/metric ton Al)	HSS: 4.0. VSS: 0.5.
BC: binder content of paste (percent weight)	Dry Paste: 24. Wet Paste: 27.
S_p: sulfur content of pitch (percent weight)	0.6.
Ash_p: ash content of pitch (percent weight)	0.2.
H_p: hydrogen content of pitch (percent weight)	3.3.
S_c: sulfur content in calcined coke (percent weight)	1.9.
Ash_c: ash content in calcined coke (percent weight)	0.2.
CD: carbon in skimmed dust from Søderberg cells (metric ton C/metric ton Al)	0.01.
CO_2 Emissions from Pitch Volatiles Combustion (VSS and HSS)	
GA: initial weight of green anodes (metric tons)	Individual facility records.
H_w: annual hydrogen content in green anodes (metric tons)	0.005 × GA.
BA: annual baked anode production (metric tons)	Individual facility records.
WT: annual waste tar collected (metric tons)	(a) 0.005 × GA.
(a) Riedhammer furnaces	(b) insignificant.
(b) all other furnaces.	
CO_2 Emissions From Bake Furnace Packing Materials (CWPB and SWPB)	
PCC: annual packing coke consumption (metric tons/metric ton baked anode)	0.015.
BA: annual baked anode production (metric tons)	Individual facility records.
S_{pc}: sulfur content in packing coke (percent weight)	2.
Ash_{pc}: ash content in packing coke (percent weight)	2.5.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79156, Dec. 17, 2010]

Subpart G—Ammonia Manufacturing

§98.70 Definition of source category.

The ammonia manufacturing source category comprises the process units listed in paragraphs (a) and (b) of this section.

(a) Ammonia manufacturing processes in which ammonia is manufactured from a fossil-based feedstock produced via steam reforming of a hydrocarbon.

(b) Ammonia manufacturing processes in which ammonia is manufactured through the gasification of solid and liquid raw material.

§98.71 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an ammonia manufacturing process and the facility meets the requirements of either §98.2(a)(1) or (2).

§98.72 GHGs to report.

You must report:

(a) CO_2 process emissions from steam reforming of a hydrocarbon or the gasification of solid and liquid raw material, reported for each ammonia manufacturing process unit following the requirements of this subpart (CO_2 process emissions reported under this subpart may include CO_2 that is later consumed on site for urea production, and therefore is not released to the ambient air from the ammonia manufacturing process unit).

(b) CO_2, CH_4, and N_2O emissions from each stationary fuel combustion unit. You must report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources), by following the requirements of subpart C, except that for ammonia manufacturing processes subpart C does not apply to any CO_2 resulting from combustion of the waste recycle stream (commonly referred to as the purge gas stream).

(c) CO_2 emissions collected and transferred off site under subpart PP of this part (Suppliers of CO_2), following the requirements of subpart PP.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79156, Dec. 17, 2010]

§98.73 Calculating GHG emissions.

You must calculate and report the annual process CO_2 emissions from each ammonia manufacturing process unit using the procedures in either paragraph (a) or (b) of this section.

(a) Calculate and report under this subpart the process CO_2 emissions by operating and maintaining CEMS according to the Tier 4 Calculation Methodology specified in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) Calculate and report under this subpart process CO_2 emissions using the procedures in paragraphs (b)(1) through (b)(5) of this section for gaseous feedstock, liquid feedstock, or solid feedstock, as applicable.

(1) *Gaseous feedstock.* You must calculate, from each ammonia manufacturing unit, the CO_2 process emissions from gaseous feedstock according to Equation G–1 of this section:

$$CO_{2,G,k} = \left(\sum_{n=1}^{12} \frac{44}{12} * Fdstk_{n,k} * CC_n * \frac{MW}{MVC} \right) * 0.001 \qquad \text{(Eq. G-1)}$$

Where:

$CO_{2,G,k}$ = Annual CO_2 emissions arising from gaseous feedstock consumption (metric tons).

$Fdstk_n$ = Volume of the gaseous feedstock used in month n (scf of feedstock).

CC_n = Carbon content of the gaseous feedstock, for month n (kg C per kg of feedstock), determined according to 98.74(c).

MW = Molecular weight of the gaseous feedstock (kg/kg-mole).

MVC = Molar volume conversion factor (849.5 scf per kg-mole at standard conditions).
44/12 = Ratio of molecular weights, CO_2 to carbon.
0.001 = Conversion factor from kg to metric tons.
k = Processing unit.
n = Number of month.

(2) *Liquid feedstock*. You must calculate, from each ammonia manufacturing unit, the CO_2 process emissions from liquid feedstock according to Equation G–2 of this section:

$$CO_{2,L,k} = \left(\sum_{n=1}^{12} \frac{44}{12} * Fdstk_{n,k} * CC_n \right) * 0.001 \qquad \text{(Eq. G-2)}$$

Where:
$CO_{2,L,k}$ = Annual CO_2 emissions arising from liquid feedstock consumption (metric tons).
$Fdstk_n$ = Volume of the liquid feedstock used in month n (gallons of feedstock).
CC_n = Carbon content of the liquid feedstock, for month n (kg C per gallon of feedstock) determined according to 98.74(c).
44/12 = Ratio of molecular weights, CO_2 to carbon.
0.001 = Conversion factor from kg to metric tons.
k = Processing unit.
n = Number of month.

(3) *Solid feedstock*. You must calculate, from each ammonia manufacturing unit, the CO_2 process emissions from solid feedstock according to Equation G–3 of this section:

$$CO_{2,S,k} = \left(\sum_{n=1}^{12} \frac{44}{12} * Fdstk_{n,k} * CC_n \right) * 0.001 \qquad \text{(Eq. G-3)}$$

Where:
$CO_{2,S,k}$ = Annual CO_2 emissions arising from solid feedstock consumption (metric tons).
$Fdstk_n$ = Mass of the solid feedstock used in month n (kg of feedstock).
CC_n = Carbon content of the solid feedstock, for month n (kg C per kg of feedstock), determined according to 98.74(c).
44/12 = Ratio of molecular weights, CO_2 to carbon.
0.001 = Conversion factor from kg to metric tons.
k = Processing unit.
n = Number of month.

(4) You must calculate the annual process CO_2 emissions from each ammonia processing unit k at your facility according to Equation G–4 of this section:

$$E_{CO2,k} = CO_{2,G,k} + CO_{2,L,k} + CO_{2,S,k} \qquad \text{(Eq. G-4)}$$

Where:
E_{CO2_k} = Annual CO_2 emissions from each ammonia processing unit k (metric tons).
k = Processing unit.

(5) You must determine the combined CO_2 emissions from all ammonia processing units at your facility using Equation G–5 of this section.

$$CO_2 = \sum_{k=1}^{n} E_{CO2_k} \qquad \text{(Eq. G-5)}$$

Where:
CO_2 = Annual combined CO_2 emissions from all ammonia processing units (metric tons) (CO_2 process emissions reported under this subpart may include CO_2 that

is later consumed on site for urea production, and therefore is not released to the ambient air from the ammonia manufacturing process unit(s)).

E_{CO2k} = Annual CO_2 emissions from each ammonia processing unit (metric tons).

k = Processing unit.

n = Total number of ammonia processing units.

(c) If GHG emissions from an ammonia manufacturing unit are vented through the same stack as any combustion unit or process equipment that reports CO_2 emissions using a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Fuel Combustion Sources), then the calculation methodology in paragraph (b) of this section shall not be used to calculate process emissions. The owner or operator shall report under this subpart the combined stack emissions according to the Tier 4 Calculation Methodology in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79156, Dec. 17, 2010]

§98.74 Monitoring and QA/QC requirements.

(a) You must continuously measure the quantity of gaseous or liquid feedstock consumed using a flow meter. The quantity of solid feedstock consumed can be obtained from company records and aggregated on a monthly basis.

(b) You must document the procedures used to ensure the accuracy of the estimates of feedstock consumption.

(c) You must determine monthly carbon contents and the average molecular weight of each feedstock consumed from reports from your supplier. As an alternative to using supplier information on carbon contents, you can also collect a sample of each feedstock on a monthly basis and analyze the carbon content and molecular weight of the fuel using any of the following methods listed in paragraphs (c)(1) through (c)(8) of this section, as applicable.

(1) ASTM D1945–03 Standard Test Method for Analysis of Natural Gas by Gas Chromatography (incorporated by reference, *see* §98.7).

(2) ASTM D1946–90 (Reapproved 2006) Standard Practice for Analysis of Reformed Gas by Gas Chromatography (incorporated by reference, *see* §98.7).

(3) ASTM D2502–04 (Reapproved 2002) Standard Test Method for Estimation of Mean Relative Molecular Mass of Petroleum Oils from Viscosity Measurements (incorporated by reference, *see* §98.7).

(4) ASTM D2503–92 (Reapproved 2007) Standard Test Method for Relative Molecular Mass (Molecular Weight) of Hydrocarbons by Thermoelectric Measurement of Vapor Pressure (incorporated by reference, *see* §98.7).

(5) ASTM D3238–95 (Reapproved 2005) Standard Test Method for Calculation of Carbon Distribution and Structural Group Analysis of Petroleum Oils by the n-d-M Method (incorporated by reference, *see* §98.7).

(6) ASTM D5291–02 (Reapproved 2007) Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum Products and Lubricants (incorporated by reference, *see* §98.7).

(7) ASTM D3176–89 (Reapproved 2002) Standard Practice for Ultimate Analysis of Coal and Coke (incorporated by reference, *see* §98.7).

(8) ASTM D5373–08 Standard Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, *see* §98.7).

(d) Calibrate all oil and gas flow meters that are used to measure liquid and gaseous feedstock volumes and flow rates (except for gas billing meters) according to the monitoring and QA/QC requirements for the Tier 3 methodology in §98.34(b)(1). Perform oil tank drop measurements (if used to quantify feedstock volumes) according to §98.34(b)(2).

(e) For quality assurance and quality control of the supplier data, on an annual basis, you must measure the carbon contents of a representative sample of the feedstocks consumed using the appropriate ASTM Method as listed in paragraphs (c)(1) through (c)(8) of this section.

(f) [Reserved]

(g) If CO_2 from ammonia production is used to produce urea at the same facility, you must determine the quantity of urea produced using methods or plant instruments used for accounting purposes (such as sales records). You must document the procedures used to ensure the accuracy of the estimates of urea produced.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79156, Dec. 17, 2010]

§ 98.75 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever the monitoring and quality assurance procedures in § 98.74 cannot be followed (e.g., if a meter malfunctions during unit operation), a substitute data value for the missing parameter shall be used in the calculations following paragraphs (a) and (b) of this section. You must document and keep records of the procedures used for all such estimates.

(a) For missing data on monthly carbon contents of feedstock, the substitute data value shall be the arithmetic average of the quality-assured values of that carbon content in the month preceding and the month immediately following the missing data incident. If no quality-assured data are available prior to the missing data incident, the substitute data value shall be the first quality-assured value for carbon content obtained in the month after the missing data period.

(b) For missing feedstock supply rates used to determine monthly feedstock consumption, you must determine the best available estimate(s) of the parameter(s), based on all available process data.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79157, Dec. 17, 2010; 78 FR 71953, Nov. 29, 2013]

§ 98.76 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) and (b) of this section, as applicable for each ammonia manufacturing process unit.

(a) If a CEMS is used to measure CO_2 emissions, then you must report the relevant information required under § 98.36 for the Tier 4 Calculation Methodology and the information in paragraphs (a)(1) and (2) of this section:

(1) Annual quantity of each type of feedstock consumed for ammonia manufacturing (scf of feedstock or gallons of feedstock or kg of feedstock).

(2) Method used for determining quantity of feedstock used.

(b) If a CEMS is not used to measure emissions, then you must report all of the following information in this paragraph (b):

(1) Annual CO_2 process emissions (metric tons) for each ammonia manufacturing process unit.

(2) [Reserved]

(3) Method used for determining quantity of monthly feedstock used.

(4) Whether carbon content for each feedstock for month n is based on reports from the supplier or analysis of carbon content.

(5) If carbon content of feedstock for month n is based on analysis, the test method used.

(6) Sampling analysis results of carbon content of feedstock as determined for QA/QC of supplier data under § 98.74(e).

(7)–(11) [Reserved]

(12) Annual urea production (metric tons) and method used to determine urea production.

(13) Annual CO_2 emissions (metric tons) from the steam reforming of a hydrocarbon or the gasification of solid and liquid raw material at the ammonia manufacturing process unit used to produce urea and the method used to determine the CO_2 consumed in urea production.

(14) Annual ammonia production (metric tons, sum of all process units reported within subpart G).

(15) Annual methanol production for each process unit (metric tons).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79157, Dec. 17, 2010; 78 FR 71953, Nov. 29, 2013; 79 FR 63785, Oct. 24, 2014]

§ 98.77 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the following records specified in paragraphs (a) through (c) of this section for each ammonia manufacturing unit.

(a) If a CEMS is used to measure emissions, retain records of all feedstock purchases in addition to the requirements in §98.37 for the Tier 4 Calculation Methodology.

(b) If a CEMS is not used to measure process CO_2 emissions, you must also retain the records specified in paragraphs (b)(1) through (b)(2) of this section:

(1) Records of all analyses and calculations conducted for reported data as listed in §98.76(b).

(2) Monthly records of carbon content of feedstock from supplier and/or all analyses conducted of carbon content.

(c) *Verification software records.* You must keep a record of the file generated by the verification software specified in §98.5(b) for the applicable data specified in paragraphs (c)(1) through (7) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (c)(1) through (7) of this section.

(1) Volume of each gaseous feedstock used in month (scf of feedstock) (in Equation G–1 of §98.73).

(2) Carbon content of each gaseous feedstock, for month (kg C per kg of feedstock) (in Equation G–1).

(3) Molecular weight of each gaseous feedstock per ammonia manufacturing unit with gaseous feedstock (kg/kgmole) (Equation G–1).

(4) Volume of each liquid feedstock used in month (gallons of feedstock) (Equation G–2 of §98.73).

(5) Carbon content of each liquid feedstock, for month (kg C per gallon of feedstock) (Equation G–2).

(6) Mass of each solid feedstock used in month (kg of feedstock) (Equation G–3 of §98.73).

(7) Carbon content of each solid feedstock, for month (kg C per kg of feedstock) (Equation G–3).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63785, Oct. 24, 2014]

§98.78 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart H—Cement Production

§98.80 Definition of the source category.

The cement production source category consists of each kiln and each in-line kiln/raw mill at any portland cement manufacturing facility including alkali bypasses, and includes kilns and in-line kiln/raw mills that burn hazardous waste.

§98.81 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a cement production process and the facility meets the requirements of either §98.2(a)(1) or (2).

§98.82 GHGs to report.

You must report:

(a) CO_2 process emissions from calcination in each kiln.

(b) CO_2 combustion emissions from each kiln.

(c) CH_4 and N_2O combustion emissions from each kiln. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

(d) CO_2, CH_4, and N_2O emissions from each stationary combustion unit other than kilns. You must report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

§98.83 Calculating GHG emissions.

You must calculate and report the annual process CO_2 emissions from each kiln using the procedure in paragraphs (a) and (b) of this section.

(a) For each cement kiln that meets the conditions specified in §98.33(b)(4)(ii) or (b)(4)(iii), you must calculate and report under this subpart the combined process and combustion CO_2 emissions by operating and maintaining a CEMS to measure CO_2 emissions according to the Tier 4 Calculation Methodology specified in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) For each kiln that is not subject to the requirements in paragraph (a) of this section, calculate and report the process and combustion CO_2 emissions from the kiln by using the procedure in either paragraph (c) or (d) of this section.

(c) Calculate and report under this subpart the combined process and combustion CO_2 emissions by operating and maintaining a CEMS to measure CO_2 emissions according to the Tier 4 Calculation Methodology specified in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(d) Calculate and report process and combustion CO_2 emissions separately using the procedures specified in paragraphs (d)(1) through (d)(4) of this section.

(1) Calculate CO_2 process emissions from all kilns at the facility using Equation H–1 of this section:

$$CO_{2CMF} = \sum_{m=1}^{k} CO_{2Cli,m} + CO_{2rm} \qquad \text{(Eq. H-1)}$$

Where:

$CO_{2\ CMF}$ = Annual process emissions of CO_2 from cement manufacturing, metric tons.

$CO_{2\ Cli,m}$ = Total annual emissions of CO_2 from clinker production from kiln m, metric tons.

$CO_{2\ rm}$ = Total annual emissions of CO_2 from raw materials, metric tons.

k = Total number of kilns at a cement manufacturing facility.

(2) *CO_2 emissions from clinker production*. Calculate CO_2 emissions from each kiln using Equations H–2 through H–5 of this section.

$$CO_{2\ Cli,m} = \sum_{j=1}^{p}\left[\left(Cli_{,j}\right)*\left(EF_{Cli,j}\right)*\frac{2000}{2205}\right] + \sum_{i=1}^{r}\left[\left(CKD_{,i}\right)*\left(EF_{CKD,i}\right)*\frac{2000}{2205}\right] \qquad \text{(Eq. H-2)}$$

Where:

$Cli_{,j}$ = Quantity of clinker produced in month j from kiln m, tons.

$EF_{Cli,j}$ = Kiln specific clinker emission factor for month j for kiln m, metric tons CO_2/metric ton clinker computed as specified in Equation H–3 of this section.

$CKD_{,i}$ = Cement kiln dust (CKD) not recycled to the kiln in quarter i from kiln m, tons.

$EF_{CKD,i}$ = Kiln specific CKD emission factor for quarter i from kiln m, metric tons CO_2/metric ton CKD computed as specified in Equation H–4 of this section.

p = Number of months for clinker calculation, 12.

r = Number of quarters for CKD calculation, 4.

2000/2205 = Conversion factor to convert tons to metric tons.

(i) *Kiln-Specific Clinker Emission Factor*. (A) Calculate the kiln-specific clinker emission factor using Equation H–3 of this section.

$$EF_{\text{Cli}} = \left(CLi_{CaO} - Cli_{ncCaO}\right)*MR_{CaO} + \left(Cli_{MgO} - Cli_{ncMgO}\right)*MR_{MgO} \qquad \text{(Eq. H-3)}$$

Where:

Cli_{CaO} = Monthly total CaO content of Clinker, wt-fraction.

Cli_{ncCaO} = Monthly non-calcined CaO content of Clinker, wt-fraction.

MR_{CaO} = Molecular-weight Ratio of CO_2/CaO = 0.785.

Cli_{MgO} = Monthly total MgO content of Clinker, wt-fraction.

Cli_{ncMgO} = Monthly non-calcined MgO content of Clinker, wt-fraction.

MR_{MgO} = Molecular-weight Ratio of CO_2/MgO = 1.092.

(B) Non-calcined CaO is CaO that remains in the clinker in the form of $CaCO_3$ and CaO in the clinker that entered the kiln as a non-carbonate species. Non-calcined MgO is MgO that remains in the clinker in the form of $MgCO_3$ and MgO in the clinker that entered the kiln as a non-carbonate species.

(ii) *Kiln-Specific CKD Emission Factor.* (A) Calculate the kiln-specific CKD emission factor for CKD not recycled to the kiln using Equation H–4 of this section.

$$EF_{CKD} = (CKD_{CaO} - CKD_{CaO}) * MR_{CaO} + (CKD_{MgO} - CKD_{ncMgO}) * MR_{MgO} \qquad \text{(Eq. H-4)}$$

Where:

CKD_{CaO} = Quarterly total CaO content of CKD not recycled to the kiln, wt-fraction.

CKD_{CaO} = Quarterly non-calcined CaO content of CKD not recycled to the kiln, wt-fraction.

MR_{CaO} = Molecular-weight Ratio of CO_2/CaO = 0.785.

CKD_{MgO} = Quarterly total MgO content of CKD not recycled to the kiln, wt-fraction.

CKD_{MgO} = Quarterly non-calcined MgO content of CKD not recycled to the kiln, wt-fraction.

MR_{MgO} = Molecular-weight Ratio of CO_2/MgO = 1.092.

(B) Non-calcined CaO is CaO that remains in the CKD in the form of $CaCO_3$ and CaO in the CKD that entered the kiln as a non-carbonate species. Non-calcined MgO is MgO that remains in the CKD in the form of $MgCO_3$ and MgO in the CKD that entered the kiln as a non-carbonate species.

(3) *CO_2 emissions from raw materials.* Calculate CO_2 emissions from raw materials using Equation H–5 of this section:

$$CO_{2,rm} = \sum_{i=1}^{m} rm * TOCrm * \frac{44}{12} * \frac{2000}{2205} \qquad \text{(Eq. H-5)}$$

Where:

rm = The amount of raw material i consumed annually, tons/yr (dry basis) or the amount of raw kiln feed consumed annually, tons/yr (dry basis).

$CO_{2,rm}$ = Annual CO_2 emissions from raw materials.

TOCrm = Organic carbon content of raw material i or organic carbon content of combined raw kiln feed (dry basis), as determined in §98.84(c) or using a default factor of 0.2 percent of total raw material weight.

M = Number of raw materials or 1 if calculating emissions based on combined raw kiln feed.

44/12 = Ratio of molecular weights, CO_2 to carbon.

2000/2205 = Conversion factor to convert tons to metric tons.

(4) Calculate and report under subpart C of this part (General Stationary Fuel Combustion Sources) the combustion CO_2 emissions from the kiln according to the applicable requirements in subpart C.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66461, Oct. 28, 2010]

§98.84 Monitoring and QA/QC requirements.

(a) You must determine the weight fraction of total CaO and total MgO in CKD not recycled to the kiln from each kiln using ASTM C114–09, Standard Test Methods for Chemical Analysis of Hydraulic Cement (incoporated by reference, see §98.7). The monitoring must be conducted quarterly for each kiln from a CKD sample drawn either as CKD is exiting the kiln or from bulk CKD storage.

(b) You must determine the weight fraction of total CaO and total MgO in clinker from each kiln using ASTM C114–09 Standard Test Methods for Chemical Analysis of Hydraulic Cement (incorporated by reference, see § 98.7). The monitoring must be conducted monthly for each kiln from a monthly clinker sample drawn from bulk clinker storage if storage is dedicated to the specific kiln, or from a monthly arithmetic average of daily clinker samples drawn from the clinker conveying systems exiting each kiln.

(c) The total organic carbon content (dry basis) of raw materials must be determined annually using ASTM C114–09 Standard Test Methods for Chemical Analysis of Hydraulic Cement (incorporated by reference, see § 98.7) or a similar industry standard practice or method approved for total organic carbon determination in raw mineral materials. The analysis must be conducted either on sample material drawn from bulk raw kiln feed storage or on sample material drawn from bulk raw material storage for each category of raw material (i.e., limestone, sand, shale, iron oxide, and alumina). Facilities that opt to use the default total organic carbon factor provided in § 98.83(d)(3), are not required to monitor for TOC.

(d) The quantity of clinker produced monthly by each kiln must be determined by direct weight measurement of clinker using the same plant techniques used for accounting purposes, such as reconciling weigh hopper or belt weigh feeder measurements against inventory measurements. As an alternative, facilities may also determine clinker production by direct measurement of raw kiln feed and application of a kiln-specific feed-to-clinker factor. Facilities that opt to use a feed-to-clinker factor must verify the accuracy of this factor on a monthly basis.

(e) The quantity of CKD not recycled to the kiln generated by each kiln must be determined quarterly using the same plant techniques used for accounting purposes, such as direct weight measurement using weigh hoppers, truck weigh scales, or belt weigh feeders.

(f) The annual quantity of raw kiln feed or annual quantity of each category of raw materials consumed by the facility (e.g., limestone, sand, shale, iron oxide, and alumina) must be determined monthly by direct weight measurement using the same plant instruments used for accounting purposes, such as weigh hoppers, truck weigh scales, or belt weigh feeders.

(g) The monthly non-calcined CaO and MgO that remains in the clinker in the form of $CaCO_3$ or that enters the kiln as a non-carbonate species may be assumed to be a default value of 0.0 or may be determined monthly by careful chemical analysis of feed material and clinker material from each kiln using well documented analytical and calculational methods or the appropriate industry standard practice.

(h) The quarterly non-calcined CaO and MgO that remains in the CKD in the form of $CaCO_3$ or that enters the kiln as a non-carbonate species may be assumed to be a default value of 0.0 or may be determined quarterly by careful chemical analysis of feed material and CKD material from each kiln using well documented analytical and calculational methods or the appropriate industry standard practice.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66461, Oct. 28, 2010]

§ 98.85 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations in § 98.83 is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations. The owner or operator must document and keep records of the procedures used for all such estimates.

(a) If the CEMS approach is used to determine combined process and combustion CO_2 emissions, the missing data procedures in § 98.35 apply.

(b) For CO_2 process emissions from cement manufacturing facilities calculated according to § 98.83(d), if data on the carbonate content (of clinker or CKD), noncalcined content (of clinker or CKD) or the annual organic carbon content of raw materials are missing,

facilities must undertake a new analysis.

(c) For each missing value of monthly clinker production the substitute data value must be the best available estimate of the monthly clinker production based on information used for accounting purposes, or use the maximum tons per day capacity of the system and the number of days per month.

(d) For each missing value of monthly raw material consumption the substitute data value must be the best available estimate of the monthly raw material consumption based on information used for accounting purposes (such as purchase records), or use the maximum tons per day raw material throughput of the kiln and the number of days per month.

§ 98.86 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) and (b) of this section, as appropriate.

(a) If a CEMS is used to measure CO_2 emissions, then you must report under this subpart the relevant information required by § 98.36(e)(2)(vi) and the information listed in this paragraph(a):

(1) Monthly clinker production from each kiln at the facility.

(2) Annual facility cement production.

(3) Number of kilns and number of operating kilns.

(b) If a CEMS is not used to measure CO_2 emissions, then you must report the information listed in this paragraph (b) for each kiln:

(1) Kiln identification number.

(2) [Reserved]

(3) Annual cement production at the facility.

(4) Number of kilns and number of operating kilns.

(5)–(6) [Reserved]

(7) Method used to determine non-calcined CaO and non-calcined MgO in clinker.

(8) [Reserved]

(9) Method used to determine non-calcined CaO and non-calcined MgO in CKD.

(10) [Reserved]

(11) Quarterly kiln-specific CKD CO_2 emission factors for each kiln (metric tons CO_2/metric ton CKD produced).

(12) [Reserved]

(13) Name of raw kiln feed or raw material.

(14) Number of times missing data procedures were used to determine the following information:

(i) Clinker production (number of months).

(ii) Carbonate contents of clinker (number of months).

(iii) Non-calcined content of clinker (number of months).

(iv) CKD not recycled to kiln (number of quarters).

(v) Non-calcined content of CKD (number of quarters)

(vi) Organic carbon contents of raw materials (number of times).

(vii) Raw material consumption (number of months).

(15) Method used to determine the monthly clinker production from each kiln.

(16) Annual clinker production (metric tons).

(17) Annual average clinker CO_2 emission factor for the facility, averaged across all kilns (metric tons CO_2/metric ton clinker produced).

(18) Annual average CKD CO_2 emission factor for the facility, averaged across all kilns (metric tons CO_2/metric ton CKD produced).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66461, Oct. 28, 2010; 78 FR 71953, Nov. 29, 2013; 79 FR 63785, Oct. 24, 2014]

§ 98.87 Records that must be retained.

(a) If a CEMS is used to measure CO_2 emissions, then in addition to the records required by § 98.3(g), you must retain under this subpart the records required for the Tier 4 Calculation Methodology in § 98.37.

(b) If a CEMS is not used to measure CO_2 emissions, then in addition to the records required by § 98.3(g), you must retain the records specified in this paragraph (b) for each portland cement manufacturing facility.

(1) Documentation of monthly calculated kiln-specific clinker CO_2 emission factor.

(2) Documentation of quarterly calculated kiln-specific CKD CO_2 emission factor.

(3) Measurements, records and calculations used to determine reported parameters.

(c) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (c)(1) through (17) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (c)(1) through (17) of this section.

(1) Identify per kiln per month if clinker is measured directly, or is calculated from raw feed (Equation H–2 of § 98.83 and the method in § 98.84(d)).

(2) Quantity of raw kiln feed in month from kiln (tons) (Equation H–2 and the method in § 98.84(d)).

(3) Kiln-specific factor per kiln per month (ton clinker per ton raw feed) (Equation H–2 and the method in § 98.84(d)).

(4) Quantity of clinker produced in month from kiln (tons) (Equation H–2 and the method in § 98.84(d)).

(5) Cement kiln dust (CKD) not recycled to the kiln in quarter from kiln (tons) (Equation H–2 and the method in § 98.84(d)).

(6) Monthly total CaO content of clinker per kiln (weight fraction) (Equation H–3 of § 98.83).

(7) Monthly non-calcined CaO content of clinker per kiln (weight fraction) (Equation H–3).

(8) Monthly total MgO content of clinker per kiln (weight fraction) (Equation H–3).

(9) Monthly non-calcined MgO content of clinker per kiln (weight fraction) (Equation H–3).

(10) Quarterly total CaO content of cement kiln dust not recycled to each kiln (weight fraction) (Equation H–4 of § 98.83).

(11) Quarterly non-calcined CaO content of cement kiln dust not recycled to each kiln (weight fraction) (Equation H–4).

(12) Quarterly total MgO content of cement kiln dust not recycled to each kiln (weight fraction) (Equation H–4).

(13) Quarterly non-calcined MgO content of cement kiln dust not recycled to each kiln (weight fraction) (Equation H–4).

(14) The amount of each raw material consumed annually per kiln (tons/yr (dry basis)) (Equation H–5 of § 98.83).

(15) The amount of each raw kiln feed consumed annually per kiln (tons/yr (dry basis)) (Equation H–5).

(16) Organic carbon content of each raw material per kiln, as determined in § 98.84(c). Default value is 0.002 weight fraction (Equation H–5).

(17) Organic carbon content of combined raw kiln feed per kiln, as determined in § 98.84(c). Default value is 0.002 weight fraction (Equation H–5).

[75 FR 66461, Oct. 28, 2010, as amended at 79 FR 63785, Oct. 24, 2014]

§ 98.88 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart I—Electronics Manufacturing

SOURCE: 75 FR 74818, Dec. 1, 2010, unless otherwise noted.

§ 98.90 Definition of the source category.

(a) The electronics manufacturing source category consists of any of the production processes listed in paragraphs (a)(1) through (a)(5) of this section that use fluorinated GHGs or N_2O. Facilities that may use these processes include, but are not limited to, facilities that manufacture micro-electro-mechanical systems (MEMS), liquid crystal displays (LCDs), photovoltaic cells (PV), and semiconductors (including light-emitting diodes (LEDs)).

(1) Any electronics production process in which the etching process uses plasma-generated fluorine atoms and other reactive fluorine-containing fragments, that chemically react with exposed thin-films (e.g., dielectric, metals) or substrate (e.g., silicon) to selectively remove portions of material.

(2) Any electronics production process in which chambers used for depositing thin films are cleaned periodically using plasma-generated fluorine atoms and other reactive fluorine-containing fragments.

(3) Any electronics production process in which wafers are cleaned using

plasma generated fluorine atoms or other reactive fluorine-containing fragments to remove residual material from wafer surfaces, including the wafer edge.

(4) Any electronics production process in which the chemical vapor deposition (CVD) process or other manufacturing processes use N_2O.

(5) Any electronics manufacturing production process in which fluorinated heat transfer fluids are used to cool process equipment, to control temperature during device testing, to clean substrate surfaces and other parts, and for soldering (e.g., vapor phase reflow).

[75 FR 74818, Dec. 1, 2010, as amended at 77 FR 10380, Feb. 22, 2012]

§98.91 Reporting threshold.

(a) You must report GHG emissions under this subpart if electronics manufacturing production processes, as defined in §98.90, are performed at your facility and your facility meets the requirements of either §98.2(a)(1) or (a)(2). To calculate total annual GHG emissions for comparison to the 25,000 metric ton CO_2e per year emission threshold in §98.2(a)(2), follow the requirements of §98.2(b), with one exception. Rather than using the calculation methodologies in §98.93 to calculate emissions from electronics manufacturing production processes, calculate emissions of each fluorinated GHG from electronics manufacturing production processes by using paragraphs (a)(1), (a)(2), or (a)(3) of this section, as appropriate, and then sum the emissions of each fluorinated GHG by using paragraph (a)(4) of this section.

(1) If you manufacture semiconductors or MEMS you must calculate annual production process emissions of each input gas i for threshold applicability purposes using the default emission factors shown in Table I–1 to this subpart and Equation I–1 of this subpart.

$$E_i = S * EF_i * GWP_i * 0.001 \quad \text{(Eq. I-1)}$$

where:

E_i = Annual production process emissions of input gas i for threshold applicability purposes (metric tons CO_2e).

S = 100 percent of annual manufacturing capacity of a facility as calculated using Equation I–5 of this subpart (m^2).

EF_i = Emission factor for input gas i (kg/m^2).

GWP_i = Gas-appropriate GWP as provided in Table A–1 to subpart A of this part.

0.001 = Conversion factor from kg to metric tons.

i = Input gas.

(2) If you manufacture LCDs, you must calculate annual production process emissions of each input gas i for threshold applicability purposes using the default emission factors shown in Table I–1 to this subpart and Equation I–2 of this subpart.

$$E_i = S * EF_i * GWP_i * 0.000001 \quad \text{(Eq. I-2)}$$

where:

E_i = Annual production process emissions of input gas i for threshold applicability purposes (metric tons Co_2e).

S = 100 percent of annual manufacturing capacity of a facility as calculated using Equation I–5 of this subpart (m^2).

EF_i = Emission factor for input gas i (g/m^2).

GWP_i = Gas-appropriate GWP as provided in Table A–1 to subpart A of this part.

0.000001 = Conversion factor from g to metric tons.

i = Input gas.

(3) If you manufacture PVs, you must calculate annual production process emissions of each input gas i for threshold applicability purposes using gas-appropriate GWP values shown in Table A–1 to subpart A of this part and Equation I–3 of this subpart.

$$E_i = C_i * GWP_i * 0.001 \quad \text{(Eq. I-3)}$$

where:

E_i = Annual production process emissions of input gas i for threshold applicability purposes (metric tons Co_2e).

C_i = Annual fluorinated GHG (input gas i) purchases or consumption (kg). Only gases that are used in PV manufacturing processes listed at §98.90(a)(1) through (a)(4) that have listed GWP values in Table A–1 to subpart A of this part must be considered for threshold applicability purposes.

GWP_i = Gas-appropriate GWP as provided in Table A–1 to subpart A of this part.

0.001 = Conversion factor from kg to metric tons.

i = Input gas.

(4) You must calculate total annual production process emissions for threshold applicability purposes using Equation I–4 of this subpart.

$$E_T = \delta * \sum_i E_i \quad \text{(Eq. I-4)}$$

where:

E_T = Annual production process emissions of all fluorinated GHGs for threshold applicability purposes (metric tons Co_2e).

δ = Factor accounting for fluorinated heat transfer fluid emissions, estimated as 10 percent of total annual production process emissions at a semiconductor facility. Set equal to 1.1 when Equation I–4 of this subpart is used to calculate total annual production process emissions from semiconductor manufacturing. Set equal to 1 when Equation I–4 of this subpart is used to calculate total annual production process emissions from MEMS, LCD, or PV manufacturing.

E_i = Annual production process emissions of input gas i for threshold applicability purposes (metric tons Co_2e), as calculated in Equations I–1, I–2 or I–3 of this subpart.

i = Input gas.

(b) You must calculate annual manufacturing capacity of a facility using Equation I–5 of this subpart.

$$S = \sum_{x}^{12} W_x \quad \text{(Eq. I-5)}$$

where:

S = 100 percent of annual manufacturing capacity of a facility (m^2).

W_X = Maximum substrate starts of fab f in month x (m^2 per month).

x = Month.

[75 FR 74818, Dec. 1, 2010, as amended at 77 FR 10380, Feb. 22, 2012; 78 FR 68202, Nov. 13, 2013]

§ 98.92 GHGs to report.

(a) You must report emissions of fluorinated GHGs (as defined in §98.6), N_2O, and fluorinated heat transfer fluids (as defined in §98.98). The fluorinated GHGs and fluorinated heat transfer fluids that are emitted from electronics manufacturing production processes include, but are not limited to, those listed in Table I–2 to this subpart. You must individually report, as appropriate:

(1) Fluorinated GHGs emitted.

(2)–(3) [Reserved]

(4) N_2O emitted from chemical vapor deposition and other electronics manufacturing processes.

(5) Emissions of fluorinated heat transfer fluids.

(6) All fluorinated GHGs and N_2O consumed.

(b) CO_2, CH_4, and N_2O combustion emissions from each stationary combustion unit. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel

Combustion Sources) by following the requirements of subpart C of this part.

[75 FR 74818, Dec. 1, 2010, as amended at 77 FR 10380, Feb. 22, 2012; 78 FR 68202, Nov. 13, 2013]

§98.93 Calculating GHG emissions.

(a) You must calculate total annual emissions of each fluorinated GHG emitted by electronics manufacturing production processes from each fab (as defined in §98.98) at your facility, including each input gas and each by-product gas. You must use either default gas utilization rates and by-product formations rates according to the procedures in paragraph (a)(1), (a)(2), or (a)(6) of this section, as appropriate, or the stack test method according to paragraph (i) of this section, to calculate emissions of each input gas and each by-product gas.

(1) If you manufacture semiconductors, you must adhere to the procedures in paragraphs (a)(2)(i) through (iii) of this section. You must calculate annual emissions of each input gas and of each by-product gas using Equations I–6 and I–7, respectively. If your fab uses less than 50 kg of a fluorinated GHG in one reporting year, you may calculate emissions as equal to your fab's annual consumption for that specific gas as calculated in Equation I–11 of this subpart, plus any by-product emissions of that gas calculated under this paragraph (a).

$$ProcesstypeE_i = \sum_{j=1}^{N} E_{ij} \qquad \text{(Eq. I-6)}$$

Where:

$ProcesstypeE_i$ = Annual emissions of input gas i from the process type on a fab basis (metric tons).

E_{ij} = Annual emissions of input gas i from process sub-type or process type j as calculated in Equation I–8 of this subpart (metric tons).

N = The total number of process sub-types j that depends on the electronics manufacturing fab and emission calculation methodology. If E_{ij} is calculated for a process type j in Equation I–8 of this subpart, N = 1.

i = Input gas.

j = Process sub-type or process type.

$$ProcesstypeBE_k = \sum_{j=1}^{N} \sum_{i} BE_{ijk} \qquad \text{(Eq. I-7)}$$

Where:

$ProcesstypeBE_k$ = Annual emissions of by-product gas k from the processes type on a fab basis (metric tons).

BE_{ijk} = Annual emissions of by-product gas k formed from input gas i used for process sub-type or process type j as calculated in Equation I–9 of this subpart (metric tons).

N = The total number of process sub-types j that depends on the electronics manufacturing fab and emission calculation methodology. If BE_{ijk} is calculated for a process type j in Equation I–9 of this subpart, N = 1.

i = Input gas.

j = Process sub-type, or process type.

k = By-product gas.

(i) You must calculate annual fab-level emissions of each fluorinated GHG used for the plasma etching/wafer cleaning process type using default utilization and by-product formation rates as shown in Table I–3 or I–4 of this subpart, and by using Equations I–8 and I–9 of this subpart.

$$E_{ij} = C_{ij} * (1 - U_{ij}) * \left(1 - (a_{ij} * d_{ij} * UT_{ij})\right) * 0.001 \quad \text{(Eq. I-8)}$$

Where:

E_{ij} = Annual emissions of input gas i from process sub-type or process type j, on a fab basis (metric tons).

C_{ij} = Amount of input gas i consumed for process sub-type or process type j, as calculated in Equation I–13 of this subpart, on a fab basis (kg).

U_{ij} = Process utilization rate for input gas i for process sub-type or process type j (expressed as a decimal fraction).

a_{ij} = Fraction of input gas i used in process sub-type or process type j with abatement systems, on a fab basis (expressed as a decimal fraction).

d_{ij} = Fraction of input gas i destroyed or removed in abatement systems connected to process tools where process sub-type, or process type j is used, on a fab basis (expressed as a decimal fraction). This is zero unless the facility adheres to the requirements in § 98.94(f).

UT_{ij} = The average uptime factor of all abatement systems connected to process tools in the fab using input gas i in process sub-type or process type j, as calculated in Equation I–15 of this subpart, on a fab basis (expressed as a decimal fraction).

0.001 = Conversion factor from kg to metric tons.

i = Input gas.

j = Process sub-type or process type.

$$\cancel{BE_{ijk} = B_{ijk} * C_{ij} * (1 - a_{ij} * d_{jk}) * 0.001}$$

$$BE_{ijk} = B_{ijk} * C_{ij} * \left(1 - (a_{ij} * d_{jk} * UT_{ijk})\right) * 0.001 \quad \text{(Eq. I-9)}$$

Where:

BE_{ijk} = Annual emissions of by-product gas k formed from input gas i from process sub-type or process type j, on a fab basis (metric tons).

B_{ijk} = By-product formation rate of gas k created as a by-product per amount of input gas i (kg) consumed by process sub-type or process type j (kg).

C_{ij} = Amount of input gas i consumed for process sub-type, or process type j, as calculated in Equation I–13 of this subpart, on a fab basis (kg).

a_{ij} = Fraction of input gas i used for process sub-type, or process type j with abatement systems, on a fab basis (expressed as a decimal fraction).

d_{jk} = Fraction of by-product gas k destroyed or removed in abatement systems connected to process tools where process sub-type, or process type j is used, on a fab basis (expressed as a decimal fraction). This is zero unless the facility adheres to the requirements in § 98.94(f).

UT_{ijk} = The average uptime factor of all abatement systems connected to process tools in the fab emitting by-product gas k, formed from input gas i in process sub-type or process type j, on a fab basis (expressed as a decimal fraction). For this equation, UT_{ijk} is assumed to be equal to UT_{ij} as calculated in Equation I–15 of this subpart.

0.001 = Conversion factor from kg to metric tons.

i = Input gas.

j = Process sub-type or process type.

k = By-product gas.

(ii) You must calculate annual fab-level emissions of each fluorinated GHG used for each of the process sub-types associated with the chamber cleaning process type, including in-situ plasma chamber clean, remote plasma chamber clean, and in-situ thermal chamber clean, using default utilization and by-product formation rates as shown in Table I–3 or I–4 of this subpart, and by using Equations I–8 and I–9 of this subpart.

(iii) If default values are not available for a particular input gas and process type or sub-type combination in Tables I–3 or I–4, you must follow the procedures in paragraph (a)(6) of this section.

(2) If you manufacture MEMS, LCDs, or PVs, you must calculate annual fab-level emissions of each fluorinated GHG used for the plasma etching and chamber cleaning process types using default utilization and by-product formation rates as shown in Table I–5, I–

6, or I–7 of this subpart, as appropriate, and by using Equations I–8 and I–9 of this subpart. If default values are not available for a particular input gas and process type or sub-type combination in Tables I–5, I–6, or I–7, you must follow the procedures in paragraph (a)(6) of this section. If your fab uses less than 50 kg of a fluorinated GHG in one reporting year, you may calculate emissions as equal to your fab's annual consumption for that specific gas as calculated in Equation I–11 of this subpart, plus any by-product emissions of that gas calculated under this paragraph (a).

(3)–(5) [Reserved]

(6) If you are required, or elect, to perform calculations using default emission factors for gas utilization and by-product formation rates according to the procedures in paragraphs (a)(1) or (a)(2) of this section, and default values are not available for a particular input gas and process type or sub-type combination in Tables I–3, I–4, I–5, I–6, or I–7, you must use the utilization and by-product formation rates of zero and use Equations I–8 and I–9 of this subpart.

(b) You must calculate annual fab-level N_2O emissions from all chemical vapor deposition processes and from the aggregate of all other electronics manufacturing production processes using Equation I–10 of this subpart and the methods in paragraphs (b)(1) and (2) of this section. If your fab uses less than 50 kg of N_2O in one reporting year, you may calculate fab emissions as equal to your fab's annual consumption for N_2O as calculated in Equation I–11 of this subpart.

$$E(N_2O)_j = C_{N_2O,j} * \left(1 - U_{N_2O,j}\right) * \left(1 - \left(a_{N_2O,j} * d_{N_2O,j} * UT_{N2O}\right)\right) * 0.001 \qquad \text{(Eq. I-10)}$$

Where:

$E(N_2O)_j$ = Annual emissions of N_2O for N_2O-using process j, on a fab basis (metric tons).

$C_{N2O,j}$ = Amount of N_2O consumed for N_2O-using process j, as calculated in Equation I–13 of this subpart and apportioned to N_2O process j, on a fab basis (kg).

$U_{N2O,j}$ = Process utilization factor for N_2O-using process j (expressed as a decimal fraction) from Table I–8 of this subpart.

$a_{N2O,j}$ = Fraction of N_2O used in N_2O-using process j with abatement systems, on a fab basis (expressed as a decimal fraction).

$d_{N2O,j}$ = Fraction of N_2O for N_2O-using process j destroyed or removed in abatement systems connected to process tools where process j is used, on a fab basis (expressed as a decimal fraction). This is zero unless the facility adheres to the requirements in §98.94(f).

UT_{N2O} = The average uptime factor of all the abatement systems connected to process tools in the fab that use N_2O, as calculated in Equation I–15 of this subpart, on a fab basis (expressed as a decimal fraction). For purposes of calculating the abatement system uptime for N_2O using process tools, in Equation I–15 of this subpart, the only input gas i is N_2O, j is the N_2O using process, and p is the N_2O abatement system connected to the N_2O using tool.

0.001 = Conversion factor from kg to metric tons.

j = Type of N_2O-using process, either chemical vapor deposition or all other N_2O-using manufacturing processes.

(1) You must use the factor for N_2O utilization for chemical vapor deposition processes as shown in Table I–8 to this subpart.

(2) You must use the factor for N_2O utilization for all other manufacturing production processes other than chemical vapor deposition as shown in Table I–8 to this subpart.

(c) You must calculate total annual input gas i consumption on a fab basis for each fluorinated GHG and N_2O using Equation I–11 of this subpart. Where a gas supply system serves more than one fab, Equation I–11 is applied to that gas which has been apportioned to each fab served by that system using the apportioning factors determined in accordance with §98.94(c).

$$C_i = (I_{Bi} - I_{Ei} + A_i - D_i) \quad \text{(Eq. I-11)}$$

where:

C_i = Annual consumption of input gas i, on a fab basis (kg per year).

I_{Bi} = Inventory of input gas i stored in containers at the beginning of the reporting year, including heels, on a fab basis (kg). For containers in service at the beginning of a reporting year, account for the quantity in these containers as if they were full.

I_{Ei} = Inventory of input gas i stored in containers at the end of the reporting year, including heels, on a fab basis (kg). For containers in service at the end of a reporting year, account for the quantity in these containers as if they were full.

A_i = Acquisitions of input gas i during the year through purchases or other transactions, including heels in containers returned to the electronics manufacturing facility, on a fab basis (kg).

D_i = Disbursements of input gas i through sales or other transactions during the year, including heels in containers returned by the electronics manufacturing facility to the chemical supplier, as calculated using Equation I–12 of this subpart, on a fab basis (kg).

i = Input gas.

(d) You must calculate disbursements of input gas i using fab-wide gas-specific heel factors, as determined in § 98.94(b), and by using Equation I–12 of this subpart. Where a gas supply system serves more than one fab, Equation I–12 is applied to that gas which has been apportioned to each fab served by that system using the apportioning factors determined in accordance with § 98.94(c).

$$D_i = \sum_{l=1}^{M} \left(h_{il} * N_{il} * F_{il}\right) + X_i \quad \text{(Eq. I-12)}$$

where:

D_i = Disbursements of input gas i through sales or other transactions during the reporting year on a fab basis, including heels in containers returned by the electronics manufacturing fab to the gas distributor (kg).

h_{il} = Fab-wide gas-specific heel factor for input gas i and container size and type l (expressed as a decimal fraction), as determined in § 98.94(b). If your fab uses less than 50 kg of a fluorinated GHG or N_2O in one reporting year, you may assume that any h_{il} for that fluorinated GHG or N_2O is equal to zero.

N_{il} = Number of containers of size and type l returned to the gas distributor containing the standard heel of input gas i.

F_{il} = Full capacity of containers of size and type l containing input gas i, on a fab basis (kg).

X_i = Disbursements under exceptional circumstances of input gas i through sales or other transactions during the year, on a fab basis (kg). These include returns of containers whose contents have been weighed due to an exceptional circumstance as specified in § 98.94(b)(4).

i = Input gas.

l = Size and type of gas container.

M = The total number of different sized container types on a fab basis. If only one size and container type is used for an input gas i, M=1

(e) You must calculate the amount of input gas i consumed, on a fab basis, for each process sub-type or process type j, using Equation I–13 of this subpart. Where a gas supply system serves more than one fab, Equation I–13 is applied to that gas which has been apportioned to each fab served by that system using the apportioning factors determined in accordance with § 98.94(c). If you elect to calculate emissions using the stack test method in paragraph (i) of this section, you must calculate the amount of input gas i consumed on the applicable basis by using an appropriate apportioning factor. For example, when calculating fab-level emissions of each fluorinated GHG consumed using Equation I–21 of this section, you must substitute the term fij with the appropriate apportioning factor to calculate the total consumption of each fluorinated GHG in tools that are vented to stack systems that are tested.

$$C_{ij} = f_{ij} * C_i \quad \text{(Eq. I-13)}$$

where:

$C_{i,j}$ = The annual amount of input gas i consumed, on a fab basis, for process sub-type or process type j (kg).

$f_{i,j}$ = Process sub-type-specific or process type-specific j, input gas i apportioning factor (expressed as a decimal fraction), as determined in accordance with §98.94(c).

C_i = Annual consumption of input gas i, on a fab basis, as calculated using Equation I–11 of this subpart (kg).

i = Input gas.

j = Process sub-type or process type.

(f) [Reserved]

(g) If you report controlled emissions pursuant to §98.94(f), you must calculate the uptime of all the abatement systems for each combination of input gas or by-product gas, and process sub-type or process type, by using Equation I–15 of this subpart.

$$UT_{ij} = 1 - \frac{\sum_p Td_{ijp}}{\sum_p UT_{ijp}} \qquad \text{(Eq. I-15)}$$

Where:

UT_{ij} = The average uptime factor of all abatement systems connected to process tools in the fab using input gas i in process sub-type or process type j (expressed as a decimal fraction).

Td_{ijp} = The total time, in minutes, that abatement system p, connected to process tool(s) in the fab using input gas i in process sub-type or process type j, is not in operational mode, as defined in §98.98, when at least one of the tools connected to abatement system p is in operation.

UT_{ijp} = Total time, in minutes per year, in which abatement system p has at least one associated tool in operation. For determining the amount of tool operating time, you may assume that tools that were installed for the whole of the year were operated for 525,600 minutes per year. For tools that were installed or uninstalled during the year, you must prorate the operating time to account for the days in which the tool was not installed; treat any partial day that a tool was installed as a full day (1,440 minutes) of tool operation. For an abatement system that has more than one connected tool, the tool operating time is 525,600 minutes per year if at least one tool was installed at all times throughout the year. If you have tools that are idle with no gas flow through the tool for part of the year, you may calculate total tool time using the actual time that gas is flowing through the tool.

i = Input gas.

j = Process sub-type or process type.

p = Abatement system.

(h) If you use fluorinated heat transfer fluids, you must calculate the annual emissions of fluorinated heat transfer fluids on a fab basis using the mass balance approach described in Equation I–16 of this subpart.

$$EH_i = density_i * (I_{iB} + P_i - N_i + R_i - I_{iE} - D_i) * 0.001 \qquad \text{(Eq. I-16)}$$

where:

EH_i = Emissions of fluorinated heat transfer fluid i, on a fab basis (metric tons/year).

$Density_i$ = Density of fluorinated heat transfer fluid i (kg/l).

I_{iB} = Inventory of fluorinated heat transfer fluid i, on a fab basis, in containers other than equipment at the beginning of the reporting year (in stock or storage) (l). The inventory at the beginning of the reporting year must be the same as the inventory at the end of the previous reporting year.

P_i = Acquisitions of fluorinated heat transfer fluid i, on a fab basis, during the reporting year (l), including amounts purchased from chemical suppliers, amounts purchased from equipment suppliers with or inside of equipment, and amounts returned to the facility after off-site recycling.

N_i = Total nameplate capacity (full and proper charge) of equipment that uses fluorinated heat transfer fluid i and that is newly installed in the fab during the reporting year (l).

R_i = Total nameplate capacity (full and proper charge) of equipment that uses

fluorinated heat transfer fluid i and that is removed from service in the fab during the reporting year (l).

I_{iE} = Inventory of fluorinated heat transfer fluid i, on a fab basis, in containers other than equipment at the end of the reporting year (in stock or storage) (l). The inventory at the beginning of the reporting year must be the same as the inventory at the end of the previous reporting year.

D_i = Disbursements of fluorinated heat transfer fluid i, on a fab basis, during the reporting year, including amounts returned to chemical suppliers, sold with or inside of equipment, and sent off-site for verifiable recycling or destruction (l). Disbursements should include only amounts that are properly stored and transported so as to prevent emissions in transit.

0.001 = Conversion factor from kg to metric tons.

i = Fluorinated heat transfer fluid.

(1) If you use a fluorinated chemical both as a fluorinated heat transfer fluid and in other applications, you may calculate and report either emissions from all applications or from only those specified in the definition of *fluorinated heat transfer fluids in § 98.98*.

(2) [Reserved]

(i) *Stack Test Method*. As an alternative to the default emission factor method in paragraph (a) of this section, you may calculate fab-level fluorinated GHG emissions using fab-specific emission factors developed from stack testing. To use the method in this paragraph, you must first make a preliminary estimate of the fluorinated GHG emissions from each stack system in the fab under paragraph (i)(1) of this section. You must then compare the preliminary estimate for each stack system to the criteria in paragraph (i)(2) of this section to determine whether the stack system meets the criteria for using the stack test method described in paragraph (i)(3) of this section or whether the stack system meets the criteria for using the method described in paragraph (i)(4) of this section to estimate emissions from the stack systems that are not tested.

(1) *Preliminary estimate of emissions by stack system in the fab*. You must calculate a preliminary estimate of the total annual emissions, on a metric ton CO_2e basis, of all fluorinated GHG from each stack system in the fab using default utilization and by-product formation rates as shown in Table I–11, I–12, I–13, I–14, or I–15 of this subpart, as applicable, and by using Equations I–8 and I–9 of this subpart. You must include any intermittent low-use fluorinated GHGs, as defined in § 98.98 of this subpart, in any preliminary estimates. When using Equations I–8 and I–9 of this subpart for the purposes of this paragraph (i)(1), you must also adhere to the procedures in paragraphs (i)(1)(i) to (iv) of this section to calculate preliminary estimates.

(i) When you are calculating preliminary estimates for the purpose of this paragraph (i)(1), you must consider the subscript ''j'' in Equations I–8 and I–9, and I–13 of this subpart to mean ''stack system'' instead of ''process sub-type or process type.'' For the value of a_{ij}, the fraction of input gas i that is used in tools with abatement systems, for use in Equations I–8 and I–9, you may use the ratio of the number of tools using input gas i that have abatement systems that are vented to the stack system for which you are calculating the preliminary estimate to the total number of tools using input gas i that are vented to that stack system, expressed as a decimal fraction. In calculating the preliminary estimates, you must account for the effect of any fluorinated GHG abatement system meeting the definition of abatement system in § 98.98. You may use this approach to determining a_{ij} only for this preliminary estimate.

(ii) You must use representative data from the previous reporting year to estimate the consumption of input gas i as calculated in Equation I–13 of this subpart and the fraction of input gas i destroyed in abatement systems for each stack system as calculated by Equation I–24 of this subpart. If you were not required to submit an annual report under subpart I for the previous reporting year and data from the previous reporting year are not available, you may estimate the consumption of input gas i and the fraction of input gas i destroyed in abatement systems based on representative operating data from a period of at least 30 days in the current reporting year. When calculating the consumption of input gas i using Equation I–13 of this subpart, the term ''f_{ij}'' is replaced with the ratio of

the number of tools using input gas i that are vented to the stack system for which you are calculating the preliminary estimate to the total number of tools in the fab using input gas i, expressed as a decimal fraction. You may use this approach to determining f_{ij} only for this preliminary estimate.

(iii) You must use representative data from the previous reporting year to estimate the total uptime of all abatement systems for the stack system as calculated by Equation I–23 of this subpart, instead of using Equation I–15 of this subpart to calculate the average uptime factor. If you were not required to submit an annual report under subpart I for the previous reporting year and data from the previous reporting year are not available, you may estimate the total uptime of all abatement systems for the stack system based on representative operating data from a period of at least 30 days in the current reporting year.

(iv) If you anticipate an increase or decrease in annual consumption or emissions of any fluorinated GHG, or the number of tools connected to abatement systems greater than 10 percent for the current reporting year compared to the previous reporting year, you must account for the anticipated change in your preliminary estimate. You may account for such a change using a quantifiable metric (e.g., the ratio of the number tools that are expected to be vented to the stack system in the current year as compared to the previous reporting year, ratio of the expected number of wafer starts in the current reporting year as compared to the previous reporting year), engineering judgment, or other industry standard practice.

(2) *Method selection for stack systems in the fab*. If the calculations under paragraph (i)(1) of this section, as well as any subsequent annual measurements and calculations under this subpart, indicate that the stack system meets the criteria in paragraph (i)(2)(i) through (iii) of this section, then you may comply with either paragraph (i)(3) of this section (stack test method) or paragraph (i)(4) of this section (method to estimate emissions from the stack systems that are not tested). If the stack system does not meet all three criteria in paragraph (i)(2)(i) through (iii) of this section, then you must comply with the stack test method specified in paragraph (i)(3) of this section.

(i) The sum of annual emissions of fluorinated GHGs from all of the combined stack systems that are not tested in the fab must be less than 10,000 metric ton CO_2e per year.

(ii) When all stack systems in the fab are ordered from lowest to highest emitting in metric ton CO_2e of fluorinated GHG per year, each of the stack systems that is not tested must be within the set of the fab's lowest emitting fluorinated GHG stack systems that together emit 15 percent or less of total CO_2e fluorinated GHG emissions from the fab.

(iii) Fluorinated GHG emissions from each of the stack systems that is not tested can only be attributed to particular process tools during the test (that is, the stack system that is not tested cannot be used as an alternative emission point or bypass stack system from other process tools not attributed to the untested stack system).

(3) *Stack system stack test method*. For each stack system in the fab for which testing is required, measure the emissions of each fluorinated GHG from the stack system by conducting an emission test. In addition, measure the fab-specific consumption of each fluorinated GHG by the tools that are vented to the stack systems tested. Measure emissions and consumption of each fluorinated GHG as specified in §98.94(j). Develop fab-specific emission factors and calculate fab-level fluorinated GHG emissions using the procedures specified in paragraph (i)(3)(i) through (viii) of this section. All emissions test data and procedures used in developing emission factors must be documented and recorded according to §98.97.

(i) You must measure, and, if applicable, apportion the fab-specific fluorinated GHG consumption of the tools that are vented to the stack systems that are tested during the emission test as specified in §98.94(j)(3). Calculate the consumption for each fluorinated GHG for the test period.

(ii) You must calculate the emissions of each fluorinated GHG consumed as an input gas using Equation I–17 of this

subpart and each fluorinated GHG formed as a by-product gas using Equation I–18 of this subpart and the procedures specified in paragraphs (i)(3)(ii)(A) through (E) of this section. If a stack system is comprised of multiple stacks, you must sum the emissions from each stack in the stack system when using Equation I–17 or Equation I–18 of this subpart.

$$E_{is} = MW_i * Q_j * \frac{1}{SV} * \frac{1}{10^3} * \sum_{s=1}^{N} \frac{X_{ism}}{10^9} * \Delta t_m \quad \text{(Eq. I-17)}$$

Where:

E_{is} = Total fluorinated GHG input gas i, emitted from stack system s, during the sampling period (kg).

X_{ism} = Average concentration of fluorinated GHG input gas i in stack system s, during the time interval m (ppbv).

MW_i = Molecular weight of fluorinated GHG input gas i (g/g-mole).

Q_s = Flow rate of the stack system s, during the sampling period (m^3/min).

SV = Standard molar volume of gas (0.0240 m^3/g-mole at 68 °F and 1 atm).

Δt_m = Length of time interval m (minutes). Each time interval in the FTIR sampling period must be less than or equal to 60 minutes (for example an 8 hour sampling period would consist of at least 8 time intervals).

$1/10^3$ = Conversion factor (1 kilogram/1,000 grams).

i = Fluorinated GHG input gas.

s = Stack system.

N = Total number of time intervals m in sampling period.

m = Time interval.

$$E_{ks} = MW_k * Q_s * \frac{1}{SV} * \frac{1}{10^3} * \sum_{m=1}^{N} \frac{X_{ksm}}{10^9} * \Delta t_m \quad \text{(Eq. I-18)}$$

Where:

E_{ks} = Total fluorinated GHG by-product gas k, emitted from stack system s, during the sampling period (kg).

X_{ks} = Average concentration of fluorinated GHG by-product gas k in stack system s, during the time interval m (ppbv).

MW_k = Molecular weight of the fluorinated GHG by-product gas k (g/g-mole).

Q_s = Flow rate of the stack system s, during the sampling period (m^3/min).

SV = Standard molar volume of gas (0.0240 m^3/g-mole at 68 °F and 1 atm).

Δt_m = Length of time interval m (minutes). Each time interval in the FTIR sampling period must be less than or equal to 60 minutes (for example an 8 hour sampling period would consist of at least 8 time intervals).

$1/10^3$ = Conversion factor (1 kilogram/1,000 grams).

k = Fluorinated GHG by-product gas.

s = Stack system.

N = Total number of time intervals m in sampling period.

m = Time interval.

(A) If a fluorinated GHG is consumed during the sampling period, but emissions are not detected, use one-half of the field detection limit you determined for that fluorinated GHG according to § 98.94(j)(2) for the value of ''X_{ism}'' in Equation I–17.

(B) If a fluorinated GHG is consumed during the sampling period and detected intermittently during the sampling period, use the detected concentration for the value of ''X_{ism}'' in Equation I–17 when available and use one-half of the field detection limit you determined for that fluorinated GHG according to § 98.94(j)(2) for the value of ''X_{ism}'' when the fluorinated GHG is not detected.

(C) If an expected or possible by-product, as listed in Table I–17 of this subpart, is detected intermittently during the sampling period, use the measured concentration for ''X_{ksm}'' in Equation I–18 when available and use one-half of the field detection limit you determined for that fluorinated GHG according to § 98.94(j)(2) for the value of ''X_{ksm}'' when the fluorinated GHG is not detected.

(D) If a fluorinated GHG is not consumed during the sampling period and

is an expected by-product gas as listed in Table I–17 of this subpart and is not detected during the sampling period, use one-half of the field detection limit you determined for that fluorinated GHG according to §98.94(j)(2) for the value of ''X_{ksm}'' in Equation I–18.

(E) If a fluorinated GHG is not consumed during the sampling period and is a possible by-product gas as listed in Table I–17 of this subpart, and is not detected during the sampling period, then assume zero emissions for that fluorinated GHG for the tested stack system.

(iii) You must calculate a fab-specific emission factor for each fluorinated GHG input gas consumed (in kg of fluorinated GHG emitted per kg of input gas i consumed) in the tools that vent to stack systems that are tested, as applicable, using Equation I–19 of this subpart. If the emissions of input gas i exceed the consumption of input gas i during the sampling period, then equate ''E_{is}'' to the consumption of input gas i and treat the difference between the emissions and consumption of input gas i as a by-product of the other input gases, using Equation I–20 of this subpart.

$$EF_{if} = \frac{\sum_{s}(E_{is})}{Activity_{if} * \left(UT_f + \left(\frac{1-UT_f}{1-(a_{if} * d_{if})}\right)\right)} \qquad \text{(Eq. I-19)}$$

Where:

EF_{if} = Emission factor for fluorinated GHG input gas i, from fab f, representing 100 percent abatement system uptime (kg emitted/kg input gas consumed).

E_{is} = Mass emission of fluorinated GHG input gas i from stack system s, during the sampling period (kg emitted).

$Activity_{if}$ = Consumption of fluorinated GHG input gas i, for fab f, in the tools vented to the stack systems being tested, during the sampling period, as determined following the procedures specified in §98.94(j)(3) (kg consumed).

UT_f = The total uptime of all abatement systems for fab f, during the sampling period, as calculated in Equation I–23 of this subpart (expressed as decimal fraction). If the stack system does not have abatement systems on the tools vented to the stack system, the value of this parameter is zero.

a_{if} = Fraction of fluorinated GHG input gas i used in fab f in tools with abatement systems (expressed as a decimal fraction).

d_{if} = Fraction of fluorinated GHG input gas i destroyed or removed in abatement systems connected to process tools in fab f, as calculated in Equation I–24 of this subpart (expressed as decimal fraction). If the stack system does not have abatement systems on the tools vented to the stack system, the value of this parameter is zero.

f = Fab.

i = Fluorinated GHG input gas.

s = Stack system.

(iv) You must calculate a fab-specific emission factor for each fluorinated GHG formed as a by-product (in kg of fluorinated GHG per kg of total fluorinated GHG consumed) in the tools vented to stack systems that are tested, as applicable, using Equation I–20 of this subpart. When calculating the by-product emission factor for an input gas for which emissions exceeded its consumption, exclude the consumption of that input gas from the term ''$\Sigma(Activity_{if})$.''

$$EF_{kf} = \frac{\sum_{s}(E_{ks})}{\sum_{i}(Activity_{if}) * \left(UT_f + \left(\frac{1-UT_f}{1-(a_f * d_{kf})}\right)\right)} \quad \text{(Eq. I-20)}$$

Where:

EF_{kf} = Emission factor for fluorinated GHG by-product gas k, from fab f, representing 100 percent abatement system uptime (kg emitted/kg of all input gases consumed in tools vented to stack systems that are tested).

E_{ks} = Mass emission of fluorinated GHG by-product gas k, emitted from stack system s, during the sampling period (kg emitted).

$Activity_{if}$ = Consumption of fluorinated GHG input gas i for fab f in tools vented to stack systems that are tested, during the sampling period as determined following the procedures specified in § 98.94(j)(3) (kg consumed).

UT_f = The total uptime of all abatement systems for fab f, during the sampling period, as calculated in Equation I–23 of this subpart (expressed as decimal fraction).

a_f = Fraction of all fluorinated input gases used in fab f in tools with abatement systems (expressed as a decimal fraction).

d_{kf} = Fraction of fluorinated GHG by-product gas k destroyed or removed in abatement systems connected to process tools in fab f, as calculated in Equation I–24 of this subpart (expressed as decimal fraction).

f = Fab.

i = Fluorinated GHG input gas.

k = Fluorinated GHG by-product gas.

s = Stack system.

(v) You must calculate annual fab-level emissions of each fluorinated GHG consumed using Equation I–21 of this section.

$$E_{if} = EF_{if} * C_{if} * UT_f + \frac{EF_{if}}{\left(1-(a_{if} * d_{if})\right)} * C_{if} * \left(1-UT_f\right) \quad \text{(Eq. I-21)}$$

Where:

E_{if} = Annual emissions of fluorinated GHG input gas i (kg/year) from the stack systems that are tested for fab f.

EF_{if} = Emission factor for fluorinated GHG input gas i emitted from fab f, as calculated in Equation I–19 of this subpart (kg emitted/kg input gas consumed).

C_{if} = Total consumption of fluorinated GHG input gas i in tools that are vented to stack systems that are tested, for fab f, for the reporting year, as calculated using Equation I–13 of this subpart (kg/year).

UT_f = The total uptime of all abatement systems for fab f, during the reporting year, as calculated using Equation I–23 of this subpart (expressed as a decimal fraction).

a_{if} = Fraction of fluorinated GHG input gas i used in fab f in tools with abatement systems (expressed as a decimal fraction).

d_{if} = Fraction of fluorinated GHG input gas i destroyed or removed in abatement systems connected to process tools in fab f that are included in the stack testing option, as calculated in Equation I–24 of this subpart (expressed as decimal fraction).

f = Fab.

i = Fluorinated GHG input gas.

(vi) You must calculate annual fab-level emissions of each fluorinated GHG by-product formed using Equation I–22 of this section.

$$E_{kf} = EF_{kf} * \sum_{i} C_{if} * UT_f + \frac{EF_{kf}}{\left(1-(a_f * d_{kf})\right)} * \sum_{i} C_{if} * \left(1-UT_f\right) \quad \text{(Eq. I-22)}$$

Where:

Ek_f = Annual emissions of fluorinated GHG by-product k (kg/year) from the stack systems that are tested for fab f.

EF_{kf} = Emission factor for fluorinated GHG by-product k, emitted from fab f, as calculated in Equation I–20 of this subpart (kg emitted/kg of all fluorinated input gases consumed).

C_{if} = Total consumption of fluorinated GHG input gas i in tools that are vented to stack systems that are tested, for fab f, for the reporting year, as calculated using Equation I–13 of this subpart.

UT_f = The total uptime of all abatement systems for fab f, during the reporting year as calculated using Equation I–23 of this subpart (expressed as a decimal fraction).

a_f = Fraction of fluorinated input gases used in fab f in tools with abatement systems (expressed as a decimal fraction).

dk_f = Fraction of fluorinated GHG by-product k destroyed or removed in abatement systems connected to process tools in fab f that are included in the stack testing option, as calculated in Equation I–24 of this subpart (expressed as decimal fraction).

f = Fab.

i = Fluorinated GHG input gas.

k = Fluorinated GHG by-product

(vii) When using the stack testing method described in this paragraph (i), you must calculate abatement system uptime on a fab basis using Equation I–23 of this subpart. When calculating abatement system uptime for use in Equation I–19 and I–20 of this subpart, you must evaluate the variables ''Td_{pf}'' and ''UT_{pf}'' for the sampling period instead of the reporting year.

$$UT_f = 1 - \frac{\sum_p Td_{pf}}{\sum_p UT_{pf}} \qquad \text{(Eq. I-23)}$$

Where:

UT_f = The average uptime factor for all abatement systems in fab f (expressed as a decimal fraction).

Td_{pf} = The total time, in minutes, that abatement system p, connected to process tool(s) in fab f, is not in operational mode as defined in §98.98.

UT_{pf} = Total time, in minutes per year, in which the tool(s) connected at any point during the year to abatement system p, in fab f could be in operation. For determining the amount of tool operating time, you may assume that tools that were installed for the whole of the year were operated for 525,600 minutes per year. For tools that were installed or uninstalled during the year, you must prorate the operating time to account for the days in which the tool was not installed; treat any partial day that a tool was installed as a full day (1,440 minutes) of tool operation. For an abatement system that has more than one connected tool, the tool operating time is 525,600 minutes per year if there was at least one tool installed at all times throughout the year. If you have tools that are idle with no gas flow through the tool, you may calculate total tool time using the actual time that gas is flowing through the tool.

f = Fab.

p = Abatement system.

(viii) When using the stack testing option described in this paragraph (i), you must calculate the weighted-average fraction of fluorinated input gas i destroyed or removed in abatement systems for each fab f, as applicable, by using Equation I–24 of this subpart.

$$d_{if} = \frac{\sum_j C_{ijf} * DRE_{ij}}{\sum_j C_{ijf}} \qquad \text{(Eq. I-24)}$$

Where:

d_{if} = The average weighted fraction of fluorinated GHG input gas i destroyed or removed in abatement systems in fab f (expressed as a decimal fraction).

C_{ijf} = The amount of fluorinated GHG input gas i consumed for process type j fed into abatement systems in fab f as calculated using Equation I–13 of this subpart (kg).

DRE_{ij} = Destruction or removal efficiency for fluorinated GHG input gas i in abatement systems connected to process tools where process type j is used (expressed as a decimal fraction) determined according to § 98.94(f).
f = fab.
i = Fluorinated GHG input gas.
j = Process type.

(4) *Method to calculate emissions from stack systems that are not tested.* You must calculate annual fab-level emissions of each fluorinated GHG input gas and by-product gas for those fluorinated GHG listed in paragraphs (i)(4)(i) and (ii) of this section using default utilization and by-product formation rates as shown in Tables I–11, I–12, I–13, I–14, or I–15 of this subpart, as applicable, and by using Equations I–8, I–9, and I–13 of this subpart. When using Equations I–8, I–9, and I–13 of this subpart to fulfill the requirements of this paragraph, you must use, in place of the term C_{ij} in each equation, the total consumption of each fluorinated GHG meeting the criteria in paragraph (i)(4)(i) of this section or that is used in tools vented to the stack systems that meet the criteria in paragraph (i)(4)(ii) of this section. You must use, in place of the term a_{ij}, the fraction of fluorinated GHG meeting the criteria in paragraph (i)(4)(i) of this section used in tools with abatement systems or that is used in tools with abatement systems that are vented to the stack systems that meet the criteria in paragraph (i)(4)(ii) of this section. You also must use the results of Equation I–24 of this subpart in place of the terms d_{ij} in Equation I–8 of this subpart and d_{jk} in Equation I–9 of this subpart, and use the results of Equation I–23 of this subpart in place of the results of Equation I–15 of this subpart for the term UT_{ij}.

(i) Calculate emissions from consumption of each intermittent low-use fluorinated GHG as defined in § 98.98 of this subpart using the default utilization and by-product formation rates and equations specified in paragraph (i)(4) of this section. If a fluorinated GHG was not being used during the stack testing and does not meet the definition of intermittent low-use fluorinated GHG in § 98.98, then you must test the stack systems associated with the use of that fluorinated GHG at a time when that gas is in use at a magnitude that would allow you to determine an emission factor for that gas according to the procedures specified in paragraph (i)(3) of this section.

(ii) Calculate emissions from consumption of each fluorinated GHG used in tools vented to stack systems that meet the criteria specified in paragraphs (i)(2)(i) through (i)(2)(iii) of this section, and were not tested according to the procedures in paragraph (i)(3) of this section. Calculate emissions using the default utilization and by-product formation rates and equations specified in paragraph (i)(4) of this section. If you are using a fluorinated GHG not listed in Tables I–11, I–12, I–13, I–14, or I–15 of this subpart, then you must assume utilization and by-product formation rates of zero for that fluorinated GHG.

(5) To determine the total emissions of each fluorinated GHG from each fab under this stack testing option, you must sum the emissions of each fluorinated GHG determined from the procedures in paragraph (i)(3) of this section with the emissions of the same fluorinated GHG determined from the procedures in paragraph (i)(4) of this section. Sum the total emissions of each fluorinated GHG from all fabs at your facility to determine the facility-level emissions of each fluorinated GHG.

[75 FR 74818, Dec. 1, 2010, as amended at 76 FR 59551, Sept. 27, 2011; 77 FR 10380, Feb. 22, 2012; 78 FR 68202, Nov. 13, 2013; 79 FR 25682, May 6, 2014; 79 FR 73783, Dec. 11, 2014; 79 FR 77391, Dec. 24, 2014]

§ 98.94 Monitoring and QA/QC requirements.

(a) [Reserved]

(b) For purposes of Equation I–12 of this subpart, you must estimate fab-wide gas-specific heel factors for each container type for each gas used, according to the procedures in paragraphs (b)(1) through (b)(5) of this section. This paragraph (b) does not apply to fluorinated GHGs or N_2O that your fab uses in quantities of less than 50 kg in one reporting year and for which you calculate emissions as equal to consumption under § 98.93(a)(1), (a)(2), or (b), or for any intermittent low-use

fluorinated GHG for which you calculate emissions according to § 98.93(i)(4)(i).

(1) Base your fab-wide gas-specific heel factors on the trigger point for change out of a container for each container size and type for each gas used. Fab-wide gas-specific heel factors must be expressed as the ratio of the trigger point for change out, in terms of mass, to the initial mass in the container, as determined by paragraphs (b)(2) and (3) of this section.

(2) The trigger points for change out you use to calculate fab-wide gas-specific heel factors in paragraph (b)(1) of this section must be determined by monitoring the mass or the pressure of your containers. If you monitor the pressure, convert the pressure to mass using the ideal gas law, as displayed in Equation I–25 of this subpart, with the appropriate Z value selected based upon the properties of the gas.

$$pV = ZnRT \qquad \text{(Eq. I-25)}$$

Where:

p = Absolute pressure of the gas (Pa).
V = Volume of the gas container (m^3).
Z = Compressibility factor.
n = Amount of substance of the gas (moles).
R = Gas constant (8.314 Joule/Kelvin mole).
T = Absolute temperature (K).

(3) The initial mass you use to calculate a fab-wide gas-specific heel factor in paragraph (b)(1) of this section may be based on the weight of the gas provided to you in gas supplier documents; however, you remain responsible for the accuracy of these masses and weights under this subpart.

(4) If a container is changed in an exceptional circumstance, as specified in paragraphs (b)(4)(i) and (ii) of this section, you must weigh that container or measure the pressure of that container with a pressure gauge, in place of using a heel factor to determine the residual weight of gas. When using mass-based trigger points for change out, you must determine if an exceptional circumstance has occurred based on the net weight of gas in the container, excluding the tare weight of the container.

(i) For containers with a maximum storage capacity of less than 9.08 kg (20 lbs) of gas, an exceptional circumstance is a change out point that differs by more than 50 percent from the trigger point for change out used to calculate your fab-wide gas-specific heel factor for that gas and container type.

(ii) For all other containers, an exceptional circumstance is a change out point that differs by more than 20 percent from the trigger point for change out used to calculate your fab-wide gas-specific heel factor for that gas and container type.

(5) You must re-calculate a fab-wide gas-specific heel factor if you execute a process change to modify the trigger point for change out for a gas and container type that differs by more than 5 percent from the previously used trigger point for change out for that gas and container type.

(c) You must develop apportioning factors for fluorinated GHG and N_2O consumption (including the fraction of gas consumed by process tools connected to abatement systems as in Equations I–8, I–9, I–10, I–19, I–20, I–21, and I–22 of this subpart), to use in the equations of this subpart for each input gas i, process sub-type, process type, stack system, and fab as appropriate, using a fab-specific engineering model that is documented in your site GHG Monitoring Plan as required under § 98.3(g)(5). This model must be based on a quantifiable metric, such as wafer passes or wafer starts, or direct measurement of input gas consumption as specified in paragraph (c)(3) of this section. To verify your model, you must demonstrate its precision and accuracy by adhering to the requirements in paragraphs (c)(1) and (2) of this section.

(1) You must demonstrate that the fluorinated GHG and N_2O apportioning factors are developed using calculations that are repeatable, as defined in § 98.98.

(2) You must demonstrate the accuracy of your fab-specific model by comparing the actual amount of input gas i consumed and the modeled amount of input gas i consumed in the fab, as follows:

(i) You must analyze actual and modeled gas consumption for a period when the fab is at a representative operating level (as defined in § 98.98) lasting at least 30 days but no more than the reporting year.

(ii) You must compare the actual gas consumed to the modeled gas consumed for one fluorinated GHG reported under this subpart for the fab. You must certify that the fluorinated GHG selected for comparison corresponds to the largest quantity, on a mass basis, of fluorinated GHG consumed at the fab during the reporting year for which you are required to apportion following the procedures specified in § 98.93(a), (b), or (i). You may compare the actual gas consumed to the modeled gas consumed for two fluorinated GHGs and demonstrate conformance according to paragraph (c)(2)(iii) of this section on an aggregate use basis for both fluorinated GHGs if one of the fluorinated GHGs selected for comparison corresponds to the largest quantity, on a mass basis, of fluorinated GHGs used at each fab that requires apportionment during the reporting year.

(iii) You must demonstrate that the comparison performed for the largest quantity of gas(es), on a mass basis, consumed in the fab in paragraph (c)(2)(ii) of this section, does not result in a difference between the actual and modeled gas consumption that exceeds 20 percent relative to actual gas consumption, reported to two significant figures using standard rounding conventions.

(iv) If you are required to apportion gas consumption and you use the procedures in § 98.93(i) to calculate annual emissions from a fab, you must verify your apportioning factors using the procedures in paragraphs (c)(2)(ii) and (iii) of this section such that the time period specified in paragraph (c)(2)(i) of this section and the last day you perform the sampling events specified under § 98.93(i)(3) occur in the same accounting month.

(v) If your facility has multiple fabs with a single centralized fluorinated-GHG supply system, you must verify that your apportioning model can apportion fluorinated GHG consumption among the fabs by adhering to the procedures in paragraphs (c)(2)(ii) through (c)(2)(iv) of this section.

(3) As an alternative to developing apportioning factors for fluorinated GHG and N_2O consumption using a fab-specific engineering model, you may develop apportioning factors through the use of direct measurement using gas flow meters and weigh scales to measure process sub-type, process type, stack system, or fab-specific input gas consumption. You may use a combination of apportioning factors developed using a fab-specific engineering model and apportioning factors developed through the use of direct measurement, provided this is documented in your site GHG Monitoring Plan as required under 98.3(g)(5).

(d)–(e) [Reserved]

(f) If your fab employs abatement systems and you elect to reflect emission reductions due to these systems, or if your fab employs abatement systems designed for fluorinated GHG abatement and you elect to calculate fluorinated GHG emissions using the stack test method under 98.93(i), you must comply with the requirements of paragraphs (f)(1) through (f)(3) of this section. If you use an average of properly measured destruction or removal efficiencies for a gas and process subtype or process type combination, as applicable, in your emission calculations under § 98.93(a), (b), and/or (i), you must also adhere to procedures in paragraph (f)(4) of this section.

(1) You must certify and document that the abatement systems are properly installed, operated, and maintained according to the site maintenance plan for abatement systems that is developed and maintained in your records as specified in § 98.97(d)(9).

(2) You must calculate and document the uptime of abatement systems using Equation I–15 or I–23 of this subpart, as applicable.

(3) If you use default destruction and removal efficiency values in your emissions calculations under § 98.93(a), (b),

and/or (i), you must certify and document that the abatement systems at your facility for which you use default destruction or removal efficiency values are specifically designed for fluorinated GHG or N_2O abatement, as applicable. If you elect to calculate fluorinated GHG emissions using the stack test method under §98.93(i), you must also certify that you have included and accounted for all abatement systems designed for fluorinated GHG abatement and any respective downtime in your emissions calculations under §98.93(i)(3).

(4) If you do not use the default destruction or removal efficiency values in Table I–16 of this subpart to calculate and report controlled emissions, including situations in which your fab employs abatement systems not specifically designed for fluorinated GHG or N_2O abatement and you elect to reflect emission reduction due to these systems, you must use an average of properly measured destruction or removal efficiencies for each gas and process sub-type or process type combination, as applicable, determined in accordance with procedures in paragraphs (f)(4)(i) through (vi) of this section. You must not use a default value from Table I–16 of this subpart for any abatement system not specifically designed for fluorinated GHG and N_2O abatement, or for any gas and process type combination for which you have measured the destruction or removal efficiency according to the requirements of paragraphs (f)(4)(i) through (vi) of this section.

(i) A properly measured destruction or removal efficiency value must be determined in accordance with EPA 430–R–10–003 (incorporated by reference, see §98.7), or according to an alternative method approved by the Administrator (or authorized representative) as specified in paragraph (k) of this section. If you are measuring destruction or removal efficiency according to EPA 430–R–10–003 (incorporated by reference, see §98.7), you may follow the alternative procedures specified in Appendix A to this subpart.

(ii) You must select and properly measure the destruction or removal efficiency for a random sample of abatement systems to include in a random sampling abatement system testing program in accordance with procedures in paragraphs (f)(4)(ii)(A) and (B) of this section.

(A) For the first 2 years for which your fab is required to report emissions of fluorinated GHG and N_2O, for each abatement system gas and process subtype or process type combination, as applicable, a random sample of a minimum of 10 percent of installed abatement systems must be tested annually for a total of a minimum of 20 percent, or a minimum of 20 percent may be tested in the first year. For every 3-year period following the initial 2-year period, a random sample of at least 15 percent of installed abatement systems must be tested for each gas and process sub-type or process type combination; you may test 15-percent in the first year of the 3-year period, but you must test at least 5 percent each year until 15 percent are tested. For each 3-year period, you must determine the number of abatement systems to be tested based on the average number of abatement systems in service over the 3-year period. If the required percent of the total number of abatement systems to be tested for each gas and process subtype or process type combination does not equate to a whole number, the number of systems to be tested must be determined by rounding up to the nearest integer. Except as provided in paragraph (f)(4)(v) of this section, you may not retest an abatement system for any gas and process sub-type or process type combination, as applicable, until all of the abatement systems for that gas and process sub-type or process type combination have been tested.

(B) If testing of a randomly selected abatement system would be disruptive to production, you may replace that system with another randomly selected system for testing and return the system to the sampling pool for subsequent testing. Any one abatement system must not be replaced by another randomly selected system for more than three consecutive selections. When you have to replace a system in one year, you may select that specific system to be tested in one of the next two sampling years so that you may plan testing of that abatement system to avoid disrupting production.

(iii) If you elect to take credit for abatement system destruction or removal efficiency before completing testing on 20 percent of the abatement systems for that gas and process sub-type or process type combination, as applicable, you must use default destruction or removal efficiencies for a gas and process type combination. You must not use a default value from Table I–16 of this subpart for any abatement system not specifically designed for fluorinated GHG and N_2O abatement, and must not take credit for abatement system destruction or removal efficiency before completing testing on 20 percent of the abatement systems for that gas and process sub-type or process type combination, as applicable. Following testing on 20 percent of abatement systems for that gas and process sub-type or process type combination, you must calculate the average destruction or removal efficiency as the arithmetic mean of all test results for that gas and process sub-type or process type combination, until you have tested at least 30 percent of all abatement systems for each gas and process sub-type or process type combination. After testing at least 30 percent of all systems for a gas and process sub-type or process type combination, you must use the arithmetic mean of the most recent 30 percent of systems tested as the average destruction or removal efficiency. You may include results of testing conducted on or after January 1, 2011 for use in determining the site-specific destruction or removal efficiency for a given gas and process sub-type or process type combination if the testing was conducted in accordance with the requirements of paragraph (f)(4)(i) of this section.

(iv) If a measured destruction or removal efficiency is below the manufacturer-claimed fluorinated GHG or N_2O destruction or removal efficiency for any abatement system specifically designed for fluorinated GHG or N_2O abatement and the abatement system is installed, operated, and maintained in accordance with the site maintenance plan for abatement systems that is developed and maintained in your records as specified in § 98.97(d)(9), the measured destruction or removal efficiency must be included in the calculation of the destruction or removal efficiency value for that gas and process sub-type or process type.

(v) If a measured destruction or removal efficiency is below the manufacturer-claimed fluorinated GHG or N_2O destruction or removal efficiency for any abatement system specifically designed for fluorinated GHG or N_2O abatement and the abatement system is not installed, operated, or maintained in accordance with the site maintenance plan for abatement systems that is developed and maintained in your records as specified in § 98.97(d)(9), you must implement corrective action and perform a retest to replace the measured value within the reporting year. In lieu of retesting within the reporting year, you may use the measured value in calculating the average destruction or removal efficiency for the reporting year, implement corrective action, and then include the same system in the next abatement system testing period in addition to the testing of randomly selected systems for that next testing period. Regardless of whether you use the lower measured destruction or removal efficiency and when you perform the retest of the abatement system, you must count the time that the abatement system is not operated and maintained according to the site maintenance plan for abatement systems as not being in operational mode for purposes of calculating abatement system uptime.

(vi) If your fab uses redundant abatement systems, you may account for the total abatement system uptime (that is, the time that at least one abatement system is in operational mode) calculated for a specific exhaust stream during the reporting year.

(g) You must adhere to the QA/QC procedures of this paragraph when calculating fluorinated GHG and N_2O emissions from electronics manufacturing production processes:

(1)–(2) [Reserved]

(3) Follow the QA/QC procedures in accordance with those in EPA 430–R–10–003 (incorporated by reference, see § 98.7), or the applicable QA/QC procedures specified in an alternative method approved by the Administrator (or

authorized representative) according to paragraph (k) of this section, when calculating abatement systems destruction or removal efficiencies. If you are measuring destruction or removal efficiency according to EPA 430–R–10–003 (incorporated by reference, see §98.7), and you elect to follow the alternative procedures specified in Appendix A to this subpart according to paragraph (f)(4)(i) of this section, you must follow any additional QA/QC procedures specified in Appendix A to this subpart.

(4) As part of normal operations for each fab, the inventory of gas stored in containers at the beginning of the reporting year must be the same as the inventory of gas stored in containers at the end of the previous reporting year. You must maintain records documenting the year end and year beginning inventories under §98.97(a).

(h) You must adhere to the QA/QC procedures of this paragraph (h) when calculating annual gas consumption for each fluorinated GHG and N_2O used at each fab and emissions from the use of each fluorinated heat transfer fluid on a fab basis.

(1) Review all inputs to Equations I–11 and I–16 of this subpart to ensure that all inputs and outputs are accounted for.

(2) Do not enter negative inputs into the mass balance Equations I–11 and I–16 of this subpart and ensure that no negative emissions are calculated.

(3) Ensure that the inventory at the beginning of one reporting year is identical to the inventory at the end of the previous reporting year. You must maintain records documenting the year end and year beginning inventories under §98.97(a) and (r).

(4) Ensure that the total quantity of gas i in containers in service at the end of a reporting year is accounted for as if the in-service containers were full for Equation I–11 of this subpart. Ensure also that the same quantity is accounted for in the inventory of input gas i stored in containers at the beginning of the subsequent reporting year.

(i) All flow meters, weigh scales, pressure gauges, and thermometers used to measure quantities that are monitored under this section or used in calculations under §98.93 must meet the calibration and accuracy requirements specified in §98.3(i).

(j) *Stack test methodology*. For each fab for which you calculate annual emissions for any fluorinated GHG emitted from your facility using the stack test method according to the procedure specified in §98.93(i)(3), you must adhere to the requirements in paragraphs (j)(1) through (8) of this section. You may request approval to use an alternative stack test method and procedure according to paragraph (k) of this section.

(1) *Stack system testing*. Conduct an emissions test for each applicable stack system according to the procedures in paragraphs (j)(1)(i) through (iv) of this section.

(i) You must conduct an emission test during which the fab is operating at a representative operating level, as defined in §98.98, and with the abatement systems connected to the stack system being tested operating with at least 90 percent uptime, averaged over all abatement systems, during the 8-hour (or longer) period for each stack system, or at no less than 90 percent of the abatement system uptime rate measured over the previous reporting year, averaged over all abatement systems.

(ii) You must measure for the expected and possible by-products identified in Table I–17 of this subpart and those fluorinated GHGs used as input fluorinated GHG in process tools vented to the stack system, except for any intermittent low-use fluorinated GHG as defined in §98.98. You must calculate annual emissions of intermittent low-use fluorinated GHGs by adhering to the procedures in §98.93(i)(4)(i).

(iii) If a fluorinated GHG being consumed in the reporting year was not being consumed during the stack testing and does not meet the definition of intermittent low-use fluorinated GHG in §98.98, then you must test the stack systems associated with the use of that fluorinated GHG at a time when that gas is in use at a magnitude that would allow you to determine an emission factor for that gas. If a fluorinated GHG consumed in the reporting year was not being consumed during the stack testing and is no longer in use by

your fab (e.g., use of the gas has become obsolete or has been discontinued), then you must calculate annual emissions for that fluorinated GHG according to the procedure specified in § 98.93(i)(4).

(iv) Although all applicable stack systems are not required to be tested simultaneously, you must certify that no significant changes in stack flow configuration occur between tests conducted for any particular fab in a reporting year. You must certify that no more than 10 percent of the total number of fluorinated GHG emitting process tools are connected or disconnected from a stack system during testing. You must also certify that no process tools that were in operation at the start of the test period have been moved to a different stack system during the test period (i.e., during or in between testing of individual stack systems) and that no point-of-use abatement systems have been permanently removed from service during the test period. You must document any changes in stack flow configuration in the emissions test data and report required to be kept as records under § 98.97(i)(4).

(2) *Test methods and procedures.* You must adhere to the applicable test methods and procedures specified in Table I–9 to this subpart, or adhere to an alternative method approved by the Administrator (or authorized representative) according to paragraph (k) of this section. If you select Method 320 of 40 CFR part 63, Appendix A to measure the concentration of each fluorinated GHG in the stack system, you must complete a method validation according to Section 13 of Method 320 of 40 CFR part 63, Appendix A for each FTIR system (hardware and software) and each tester (testing company). Method 320 validation is necessary when any change occurs in instrumentation, tester (i.e., testing company), or stack condition (e.g., acid gas vs. base). Measurement of new compounds require validation for those compounds according to Section 13 of Method 320 of 40 CFR part 63, Appendix A. The field detection limits achieved under your test methods and procedures must fall at or below the maximum field detection limits specified in Table I–10 to this subpart.

(3) *Fab-specific fluorinated GHG consumption measurements.* You must determine the amount of each fluorinated GHG consumed by each fab during the sampling period for all process tools connected to the stack systems tested under § 98.93(i)(3), according to the procedures in paragraphs (j)(3)(i) and (ii) of this section. This determination must include apportioning gas consumption between stack systems that are being tested and those that are not tested under § 98.93(i)(2).

(i) Measure fluorinated GHG consumption using gas flow meters, scales, or pressure measurements. Measure the mass or pressure, as applicable, at the beginning and end of the sampling period and when containers are changed out. If you elect to measure gas consumption using pressure (i.e., because the gas is stored in a location above its critical temperature) you must estimate consumption as specified in paragraphs (j)(3)(i)(A) and (B) of this section.

(A) For each fluorinated GHG, you must either measure the temperature of the fluorinated GHG container(s) when the sampling periods begin and end and when containers are changed out, or measure the temperature of the fluorinated GHG container(s) every hour for the duration of the sampling period. Temperature measurements of the immediate vicinity of the containers (e.g., in the same room, near the containers) shall be considered temperature measurements of the containers.

(B) Convert the sampling period-beginning, sampling period-ending, and container change-out pressures to masses using Equation I–25 of this subpart, with the appropriate Z value selected based upon the properties of the gas (e.g., the Z value yielded by the Redlich, Kwong, Soave equation of state with appropriate values for that gas). Apply the temperatures measured at or nearest to the beginning and end of the sampling period and to the time(s) when containers are changed out, as applicable. For each gas, the consumption during the sampling period is the difference between the masses of the containers of that gas at

the beginning and at the end of the sampling period, summed across containers, including containers that are changed out.

(ii) For each fluorinated GHG gas for which consumption is too low to be accurately measured during the sampling period using gas flow meters, scales, or pressure measurements as specified in paragraph (j)(3)(i) of this section, you must follow at least one of the procedures listed in paragraph (j)(3)(ii)(A) through (C) of this section to obtain a consumption measurement.

(A) Draw the gas from a single gas container if it is normally supplied from multiple containers connected by a shared manifold.

(B) Calculate consumption from prorated long-term consumption data (for example, calculate and use hourly consumption rates from monthly consumption data).

(C) Increase the duration of the sampling period for consumption measurement beyond the minimum duration specified in Table I–9 of this subpart.

(4) *Emission test results*. The results of an emission test must include the analysis of samples, number of test runs, the average emission factor for each fluorinated GHG measured, the analytical method used, calculation of emissions, the fluorinated GHGs consumed during the sampling period, an identification of the stack systems tested, and the fluorinated GHGs that were included in the test. The emissions test report must contain all information and data used to derive the fab-specific emission factor.

(5) *Emissions testing frequency*. You must conduct emissions testing to develop fab-specific emission factors on a frequency according to the procedures in paragraph (j)(5)(i) or (ii) of this section.

(i) *Annual testing*. You must conduct an annual emissions test for each stack system for which emissions testing is required under §98.93(i)(3), unless you meet the criteria in paragraph (j)(5)(ii) of this section to skip annual testing. Each set of emissions testing for a stack system must be separated by a period of at least 2 months.

(ii) *Criteria to test less frequently*. After the first 3 years of annual testing, you may calculate the relative standard deviation of the emission factors for each fluorinated GHG included in the test and use that analysis to determine the frequency of any future testing. As an alternative, you may conduct all three tests in less than 3 calendar years for purposes of this paragraph (j)(5)(ii), but this does not relieve you of the obligation to conduct subsequent annual testing if you do not meet the criteria to test less frequently. If the criteria specified in paragraphs (j)(5)(ii)(A) and (B) of this section are met, you may use the arithmetic average of the three emission factors for each fluorinated GHG and fluorinated GHG by-product for the current year and the next 4 years with no further testing unless your fab operations are changed in way that triggers the re-test criteria in paragraph (j)(8) of this section. In the fifth year following the last stack test included in the previous average, you must test each of the stack systems for which testing is required and repeat the relative standard deviation analysis using the results of the most recent three tests (i.e., the new test and the two previous tests conducted prior to the 4 year period). If the criteria specified in paragraphs (j)(5)(ii)(A) and (B) of this section are not met, you must use the emission factors developed from the most recent testing and continue annual testing. You may conduct more than one test in the same year, but each set of emissions testing for a stack system must be separated by a period of at least 2 months. You may repeat the relative standard deviation analysis using the most recent three tests, including those tests conducted prior to the 4 year period, to determine if you are exempt from testing for the next 4 years.

(A) The relative standard deviation of the total CO_2e emission factors calculated from each of the three tests (expressed as the total CO_2e fluorinated GHG emissions of the fab divided by the total CO_2e fluorinated GHG use of the fab) is less than or equal to 15 percent.

(B) The relative standard deviation for all single fluorinated GHGs that individually accounted for 5 percent or more of CO_2e emissions were less than 20 percent.

(6) *Subsequent measurements.* You must make an annual determination of each stack system's exemption status under § 98.93(i)(2) by March 31 each year. If a stack system that was previously not required to be tested per § 98.93(i)(2), no longer meets the criteria in § 98.93(i)(2), you must conduct the emissions testing for the stack system during the current reporting and develop the fab-specific emission factor from the emissions testing.

(7) *Previous measurements.* You may include the results of emissions testing conducted on or after January 1, 2011 for use in the relative standard deviation calculation in paragraph (j)(5)(ii) of this section if the previous results were determined using a method meeting the requirements in paragraph (j)(2) of this section. You may request approval to use results of emissions testing conducted between January 1, 2011 and January 1, 2014 using a method that deviated from the requirements in paragraph (j)(2) of this section by adhering to the requirements in paragraphs (j)(7)(i) through (j)(7)(iv) of this section.

(i) Notify the Administrator (or an authorized representative) of your intention to use the results of the previous emissions testing. You must include in the notification the data and results you intend to use for meeting either reporting or recordkeeping requirements, a description of the method, and any deviations from the requirements in paragraph (j)(2) of this section. Your description must include an explanation of how any deviations do not affect the quality of the data collected.

(ii) The Administrator will review the information submitted under paragraph (j)(7)(i) and determine whether the results of the previous emissions testing are adequate and issue an approval or disapproval of the use of the results within 120 days of the date on which you submit the notification specified in paragraph (j)(7)(i) of this section.

(iii) If the Administrator finds reasonable grounds to disapprove the results of the previous emissions testing, the Administrator may request that you provide additional information to support the use of the results of the previous emissions testing. Failure to respond to any request made by the Administrator does not affect the 120 day deadline specified in paragraph (j)(7)(ii) of this section.

(iv) Neither the approval process nor the failure to obtain approval for the use of results from previous emissions testing shall abrogate your responsibility to comply with the requirements of this subpart.

(8) *Scenarios that require a stack system to be re-tested.* By March 31 of each reporting year, you must evaluate and determine whether any changes to your fab operations meet the criteria specified in paragraphs (j)(8)(i) through (vi) of this section. If any of the scenarios specified in paragraph (j)(8)(i) through (vi) of this section occur, you must perform a re-test of any applicable stack system, irrespective of whether you have met the criteria for less frequent testing in paragraph (j)(5)(ii) of this section, before the end of the year in which the evaluation was completed. You must adhere to the methods and procedures specified in § 98.93(i)(3) for performing a stack system emissions test and calculating emissions. If you meet the criteria for less frequent testing in paragraph (j)(5)(ii), and you are required to perform a re-test as specified in paragraph (j)(8)(i) through (vi) of this section, the requirement to perform a re-test does not extend the date of the next scheduled test that was established prior to meeting the requirement to perform a re-test. If the criteria specified in paragraph (j)(5)(ii) of this section are not met using the results from the re-test and the two most recent stack tests, you must use the emission factors developed from the most recent testing to calculate emissions and resume annual testing. You may resume testing less frequently according to your original schedule if the criteria specified in paragraph (j)(5)(ii) of this section are met using the most recent three tests.

(i) Annual consumption of a fluorinated GHG used during the most recent emissions test (expressed in CO_2e) changes by more than 10 percent of the total annual fluorinated GHG consumption, relative to gas consumption in CO_2e for that gas during the year of the most recent emissions test

(for example, if the use of a single gas goes from 25 percent of CO_2e to greater than 35 percent of CO_2e, this change would trigger a re-test).

(ii) A change in the consumption of an intermittent low-use fluorinated GHG (as defined in §98.98) that was not used during the emissions test and not reflected in the fab-specific emission factor, such that it no longer meets the definition of an intermittent low-use fluorinated GHG.

(iii) A decrease by more than 10 percent in the fraction of tools with abatement systems, compared to the number during the most recent emissions test.

(iv) A change in the wafer size manufactured by the fab since the most recent emissions test.

(v) A stack system that formerly met the criteria specified under §98.93(i)(2) for not being subject to testing no longer meets those criteria.

(vi) If a fluorinated GHG being consumed in the reporting year was not being consumed during the stack test and does not meet the definition of intermittent, low-use fluorinated GHG in §98.98, then you must test the stack systems associated with the use of that fluorinated GHG at a time when that gas is in use as required in paragraph (j)(1)(iii) of this section.

(k) You may request approval to use an alternative stack test method and procedure or to use an alternative method to determine abatement system destruction or removal efficiency by adhering to the requirements in paragraphs (k)(1) through (6) of this section. An alternative method is any method of sampling and analyzing for a fluorinated GHG or N_2O, or the determination of parameters other than concentration, for example, flow measurements, that is not a method specified in this subpart and that has been demonstrated to the Administrator's satisfaction, using Method 301 in appendix A of part 63, to produce results adequate for the Administrator's determination that it may be used in place of a method specified elsewhere in this subpart.

(1) You may use an alternative method from that specified in this subpart provided that you:

(i) Notify the Administrator (or an authorized representative) of your intention to use an alternative method. You must include in the notification a site-specific test plan describing the alternative method and procedures (the alternative test plan), the range of test conditions over which the validation is intended to be applicable, and an alternative means of calculating the fab-level fluorinated GHG or N_2O emissions or determining the abatement system destruction or removal efficiency if the Administrator denies the use of the results of the alternative method under paragraph (k)(2) or (3) of this section.

(ii) Use Method 301 in appendix A of part 63 of this chapter to validate the alternative method. This may include the use of only portions of specific procedures of Method 301 if use of such procedures are sufficient to validate the alternative method; and

(iii) Submit the results of the Method 301 validation process along with the notification of intention and the rationale for not using the specified method.

(2) The Administrator will determine whether the validation of the proposed alternative method is adequate and issue an approval or disapproval of the alternative test plan within 120 days of the date on which you submit the notification and alternative test plan specified in paragraph (k)(1) of this section. If the Administrator approves the alternative test plan, you are authorized to use the alternative method(s) in place of the methods described in paragraph (f)(4)(i) of this section for measuring destruction or removal efficiency or paragraph (j) of this section for conducting the stack test, as applicable, taking into account the Administrator's comments on the alternative test plan. Notwithstanding the requirement in the preceding sentence, you may at any time prior to the Administrator's approval or disapproval proceed to conduct the stack test using the methods specified in paragraph (j) of this section or the destruction or removal efficiency determination specified in (f)(4)(i) of this section if you use a method specified in this subpart instead of the requested alternative. If an alternative test plan is not approved and you still want to use an alternative method, you must recommence the process to have an alternative test

method approved starting with the notification of intent to use an alternative test method specified in paragraph (k)(1)(i) of this section.

(3) You must report the results of stack testing or destruction or removal efficiency determination using the alternative method and procedure specified in the approved alternative test plan. You must include in your report for an alternative stack test method and for an alternative abatement system destruction or removal efficiency determination the information specified in paragraph (j)(4) of this section, including all methods, calculations and data used to determine the fluorinated GHG emission factor or the abatement system destruction or removal efficiency. The Administrator will review the results of the test using the alternative methods and procedure and then approve or deny the use of the results of the alternative test method and procedure no later than 120 days after they are submitted to EPA.

(4) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative method for the purposes of determining fluorinated GHG emissions or destruction or removal efficiency of an abatement system, the Administrator may require the use of another method specified in this subpart.

(5) Once the Administrator has approved the use of the alternative method for the purposes of determining fluorinated GHG emissions for specific fluorinated GHGs and types of stack systems or abatement system destruction or removal efficiency, that method may be used at any other facility for the same fluorinated GHGs and types of stack systems, or fluorinated GHGs and abatement systems, if the approved conditions apply to that facility. In granting approval, the Administrator may limit the range of test conditions and emission characteristics for which that approval is granted and under which the alternative method may be used without seeking approval under paragraphs (k)(1) through (4) of this section. The Administrator will specify those limitations, if any, in the approval of the alternative method.

(6) Neither the validation and approval process nor the failure to validate or obtain approval of an alternative method shall abrogate your responsibility to comply with the requirements of this subpart.

[75 FR 74818, Dec. 1, 2010, as amended at 76 FR 36342, June 22, 2011; 76 FR 59551, Sept. 27, 2011; 77 FR 10380, Feb. 22, 2012; 77 FR 48089, Aug. 13, 2012; 78 FR 68209, Nov. 13, 2013; 79 FR 73785, Dec. 11, 2014]

§ 98.95 Procedures for estimating missing data.

(a) Except as provided in paragraph (b) of this section, a complete record of all measured parameters used in the fluorinated GHG and N_2O emissions calculations in § 98.93 and § 98.94 is required.

(b) If you use fluorinated heat transfer fluids at your facility and are missing data for one or more of the parameters in Equation I–16 of this subpart, you must estimate fluorinated heat transfer fluid emissions using the arithmetic average of the emission rates for the reporting year immediately preceding the period of missing data and the months immediately following the period of missing data. Alternatively, you may estimate missing information using records from the fluorinated heat transfer fluid supplier. You must document the method used and values used for all missing data values.

[75 FR 74818, Dec. 1, 2010, as amended at 77 FR 10381, Feb. 22, 2012]

§ 98.96 Data reporting requirements.

In addition to the information required by § 98.3(c), you must include in each annual report the following information for each electronics manufacturing facility:

(a) Annual manufacturing capacity of each fab at your facility used to determine the annual manufacturing capacity of your facility in Equation I–5 of this subpart.

(b) For facilities that manufacture semiconductors, the diameter of wafers manufactured at each fab at your facility (mm).

(c) Annual emissions, on a fab basis as described in paragraph (c)(1) through (5) of this section.

(1) When you use the procedures specified in § 98.93(a) of this subpart, each fluorinated GHG emitted from each

process type for which your fab is required to calculate emissions as calculated in Equations I–6 and I–7 of this subpart.

(2) Each fluorinated GHG emitted from each process type or process subtype as calculated in Equations I–8 and I–9 of this subpart, as applicable.

(3) N_2O emitted from all chemical vapor deposition processes and N_2O emitted from the aggregate of other N_2O-using manufacturing processes as calculated in Equation I–10 of this subpart.

(4) Each fluorinated heat transfer fluid emitted as calculated in Equation 1–16 of this subpart.

(5) When you use the procedures specified in §98.93(i) of this subpart, annual emissions of each fluorinated GHG, on a fab basis.

(d) The method of emissions calculation used in §98.93.

(e) Annual production in terms of substrate surface area (e.g., silicon, PV-cell, glass).

(f)–(l) [Reserved]

(m) For the fab-specific apportioning model used to apportion fluorinated GHG and N_2O consumption under §98.94(c), the following information to determine it is verified in accordance with procedures in §98.94(c)(1) and (2):

(1) Identification of the quantifiable metric used in your fab-specific engineering model to apportion gas consumption for each fab, and/or an indication if direct measurements were used in addition to, or instead of, a quantifiable metric.

(2) The start and end dates selected under §98.94(c)(2)(i).

(3) Certification that the gas(es) you selected under §98.94(c)(2)(ii) for each fab corresponds to the largest quantity(ies) consumed, on a mass basis, of fluorinated GHG used at your fab during the reporting year for which you are required to apportion.

(4) The result of the calculation comparing the actual and modeled gas consumption under §98.94(c)(2)(iii) and (iv), as applicable.

(5) If you are required to apportion fluorinated GHG consumption between fabs as required by §98.94(c)(2)(v), certification that the gas(es) you selected under §98.94(c)(2)(ii) corresponds to the largest quantity(ies) consumed on a mass basis, of fluorinated GHG used at your facility during the reporting year for which you are required to apportion.

(n)–(o) [Reserved]

(p) Inventory and description of all abatement systems through which fluorinated GHGs or N_2O flow at your facility and for which you are claiming destruction or removal efficiency, including:

(1) The number of abatement systems controlling emissions for each process sub-type, or process type, as applicable, for each gas used in the process subtype or process type.

(2) The basis of the destruction or removal efficiency being used (default or site specific measurement according to §98.94(f)(4)(i)) for each process sub-type or process type and for each gas.

(q) For all abatement systems through which fluorinated GHGs or N_2O flow at your facility, for which you are reporting controlled emissions, the following:

(1) Certification that all abatement systems at the facility have been installed, maintained, and operated in accordance with the site maintenance plan for abatement systems that is developed and maintained in your records as specified in §98.97(d)(9).

(2) If you use default destruction or removal efficiency values in your emissions calculations under §98.93(a), (b), or (i), certification that the site maintenance plan for abatement systems for which emissions are being reported contains manufacturer's recommendations and specifications for installation, operation, and maintenance for each abatement system.

(3) If you use default destruction or removal efficiency values in your emissions calculations under §98.93(a), (b), and/or (i), certification that the abatement systems for which emissions are being reported were specifically designed for fluorinated GHG or N_2O abatement, as applicable. You must support this certification by providing abatement system supplier documentation stating that the system was designed for fluorinated GHG or N_2O abatement, as applicable.

(4) For all stack systems for which you calculate fluorinated GHG emissions according to the procedures specified in § 98.93(i)(3), certification that you have included and accounted for all abatement systems and any respective downtime in your emissions calculations under § 98.93(i)(3).

(r) You must report an effective fab-wide destruction or removal efficiency value for each fab at your facility calculated using Equation I–26, I–27, and I–28 of this subpart, as appropriate.

$$DRE_{FAB} = 1 - \left[\frac{\sum_i FGHG_i * GWP_i + \sum_j N_2O_j * GWP_{N2O}}{UAFGHG + SFGHG + \sum_j C_{N2O,j} * (1 - U_{N2O,j}) * GWP_{N2O}} \right] \quad \text{(Eq. I-26)}$$

Where:

DRE_{FAB} = Fab-wide effective destruction or removal efficiency value, expressed as a decimal fraction.

$FGHG_i$ = Total emissions of each fluorinated GHG i emitted from electronics manufacturing processes in the fab, calculated according to the procedures in § 98.93.

N_2O_j = Emissions of N_2O from each N_2O-emitting electronics manufacturing process j in the fab, expressed in metric ton CO_2 equivalents, calculated according to the procedures in § 98.93.

UAFGHG = Total unabated emissions of fluorinated GHG emitted from electronics manufacturing processes in the fab, expressed in metric ton CO_2 equivalents as calculated in Equation I–27 of this subpart.

SFGHG = Total unabated emissions of fluorinated GHG emitted from electronics manufacturing processes in the fab, expressed in metric ton CO_2 equivalents, as calculated in Equation I–28 of this subpart.

$C_{N_2O,j}$ = Consumption of N_2O in each N_2O emitting process j, expressed in metric ton CO_2 equivalents.

$1–U_{N_2O,j}$ = N_2O emission factor for each N_2O emitting process j from Table I–8 of this subpart.

GWP_i = GWP of emitted fluorinated GHG i from Table A–1 of this part.

GWP_{N_2O} = GWP of N_2O from Table A–1 of this part.

i = Fluorinated GHG.

j = Process Type.

(1) Use Equation I–27 of this subpart to calculate total unabated emissions, in metric tons CO_2e, of all fluorinated GHG emitted from electronics manufacturing processes whose emissions of fluorinated GHG you calculated according to the default utilization and by-product formation rate procedures in § 98.93(a) or § 98.93(i)(4). For each fluorinated GHG i in process j, use the same consumption (C_{ij}), emission factors ($1 - U_{ij}$), and by-product formation rates (B_{ijk}) to calculate unabated emissions as you used to calculate emissions in § 98.93(a) or § 98.93(i)(4).

$$UAFGHG = \sum_i \sum_j C_{ij} * (1 - U_{ij}) * GWP_i + \sum_i \sum_j C_{ij} * B_{ijk} * GWP_k \quad \text{(Eq. I-27)}$$

Where:

UAFGHG = Total unabated emissions of fluorinated GHG emitted from electronics manufacturing processes in the fab, expressed in metric ton CO_2e for which you calculated total emission according to the procedures in § 98.93(a) or § 98.93(i)(4).

C_{ij} = Total consumption of fluorinated GHG i, apportioned to process j, expressed in metric ton CO_2e, which you used to calculate total emissions according to the procedures in § 98.93(a) or § 98.93(i)(4).

U_{ij} = Process utilization rate for fluorinated GHG i, process type j, which you used to calculate total emissions according to the procedures in § 98.93(a) or § 98.93(i)(4).

GWP_i = GWP of emitted fluorinated GHG i from Table A–1 of this part.

GWP_k = GWP of emitted fluorinated GHG by-product k from Table A–1 of this part.

B_{ijk} = By-product formation rate of fluorinated GHG k created as a by-product per amount of fluorinated GHG input gas i (kg) consumed by process type j (kg).
i = Fluorinated GHG.
j = Process Type.
k = Fluorinated GHG by-product.

(2) Use Equation I–28 to calculate total unabated emissions, in metric ton CO_2e, of all fluorinated GHG emitted from electronics manufacturing processes whose emissions of fluorinated GHG you calculated according to the stack testing procedures in §98.93(i)(3). For each set of processes, use the same input gas consumption (C_{if}), input gas emission factors (EF_{if}), by-product gas emission factors (EF_{kf}), fractions of tools abated (a_{if} and a_f), and destruction efficiencies (d_{if} and d_{kf}) to calculate unabated emissions as you used to calculate emissions.

$$SFGHG = \sum_i \left[\frac{EF_{if}}{\left(1-\left(a_{if} * d_{if}\right)\right)} * C_{if} * GWP_i \right] + \sum_k \left[\frac{EF_{kf}}{\left(1-\left(a_f * d_{kf}\right)\right)} * \sum_i C_{if} * GWP_k \right] \quad \text{Eq. I-28)}$$

Where:

SFGHG = Total unabated emissions of fluorinated GHG emitted from electronics manufacturing processes in the fab, expressed in metric ton CO_2e for which you calculated total emission according to the procedures in §98.93(i)(3).
EF_{if} = Emission factor for fluorinated GHG input gas i, emitted from fab f, as calculated in Equation I–19 of this subpart (kg emitted/kg input gas consumed).
a_{if} = Fraction of fluorinated GHG input gas i used in fab f in tools with abatement systems (expressed as a decimal fraction).
d_{if} = Fraction of fluorinated GHG i destroyed or removed in abatement systems connected to process tools in fab f, which you used to calculate total emissions according to the procedures in §98.93(i)(3) (expressed as a decimal fraction).
C_{if} = Total consumption of fluorinated GHG input gas i, of tools vented to stack systems that are tested, for fab f, for the reporting year, expressed in metric ton CO_2e, which you used to calculate total emissions according to the procedures in §98.93(i)(3) (expressed as a decimal fraction).
EF_{kf} = Emission factor for fluorinated GHG by-product gas k, emitted from fab f, as calculated in Equation I–20 of this subpart (kg emitted/kg of all input gases consumed in tools vented to stack systems that are tested).
a_f = Fraction of input gases used in fab f in tools with abatement systems (expressed as a decimal fraction).
d_{kf} = Fraction of fluorinated GHG by-product k destroyed or removed in abatement systems connected to process tools in fab f, which you used to calculate total emissions according to the procedures in §98.93(i)(3) (expressed as a decimal fraction).
GWP_i = GWP of emitted fluorinated GHG i from Table A–1 of this part.
GWP_k = GWP of emitted fluorinated GHG by-product k from Table A–1 of this part.
i = Fluorinated GHG.
k = Fluorinated GHG by-product.

(s) Where missing data procedures were used to estimate inputs into the fluorinated heat transfer fluid mass balance equation under §98.95(b), the number of times missing data procedures were followed in the reporting year and the method used to estimate the missing data.

(t)–(v) [Reserved]

(w) If you elect to calculate fab-level emissions of fluorinated GHG using the stack test methods specified in §98.93(i), you must report the following in paragraphs (w)(1) and (2) for each stack system, in addition to the relevant data in paragraphs (a) through (v) of this section:

(1) The date of any stack testing conducted during the reporting year, and the identity of the stack system tested.

(2) An inventory of all stack systems from which process fluorinated GHG are emitted. For each stack system, indicate whether the stack system is among those for which stack testing was performed as per §98.93(i)(3) or not performed as per §98.93(i)(2).

(x) If the emissions you report under paragraph (c) of this section include emissions from research and development activities, as defined in §98.6, report the approximate percentage of total GHG emissions, on a metric ton

CO_2e basis, that are attributable to research and development activities, using the following ranges: less than 5 percent, 5 percent to less than 10 percent, 10 percent to less than 25 percent, 25 percent to less than 50 percent, 50 percent and higher.

(y) If your semiconductor manufacturing facility emits more than 40,000 metric ton CO_2e of GHG emissions, based on your most recently submitted annual report (beginning with the 2015 reporting year) as required in paragraph (c) of this section, from the electronics manufacturing processes subject to reporting under this subpart, you must prepare and submit a triennial (every 3 years) technology assessment report to the Administrator (or an authorized representative) that meets the requirements specified in paragraphs (y)(1) through (6) of this section. Any other semiconductor manufacturing facility may voluntarily submit this report to the Administrator.

(1) The first report must be submitted with the annual GHG emissions report that is due no later than March 31, 2017, and subsequent reports must be delivered every 3 years no later than March 31 of the year in which it is due.

(2) The report must include the information described in paragraphs (y)(2)(i) through (v) of this section.

(i) It must describe how the gases and technologies used in semiconductor manufacturing using 200 mm and 300 mm wafers in the United States have changed in the past 3 years and whether any of the identified changes are likely to have affected the emissions characteristics of semiconductor manufacturing processes in such a way that the default utilization and by-product formation rates or default destruction or removal efficiency factors of this subpart may need to be updated.

(ii) It must describe the effect on emissions of the implementation of new process technologies and/or finer line width processes in 200 mm and 300 mm technologies, the introduction of new tool platforms, and the introduction of new processes on previously tested platforms.

(iii) It must describe the status of implementing 450 mm wafer technology and the potential need to create or update default emission factors compared to 300 mm technology.

(iv) It must provide any utilization and by-product formation rates and/or destruction or removal efficiency data that have been collected in the previous 3 years that support the changes in semiconductor manufacturing processes described in the report.

(v) It must describe the use of a new gas, use of an existing gas in a new process type or sub-type, or a fundamental change in process technology.

(3) If, on the basis of the information reported in paragraph (y)(2) of this section, the report indicates that GHG emissions from semiconductor manufacturing may have changed from those represented by the default utilization and by-product formation rates in Tables I–3 or I–4, or the default destruction or removal efficiency values in Table I–16 of this subpart, the report must lay out a data gathering and analysis plan focused on the areas of potential change. The plan must describe the elements in paragraphs (y)(3)(i) and (ii).

(i) The testing of tools to determine the potential effect on current utilization and by-product formation rates and destruction or removal efficiency values under the new conditions.

(ii) A planned analysis of the effect on overall facility emissions using a representative gas-use profile for a 200 mm, 300 mm, or 450 mm fab (depending on which technology is under consideration).

(4) Multiple semiconductor manufacturing facilities may submit a single consolidated 3-year report as long as the facility identifying information in § 98.3(c)(1) and the certification statement in § 98.3(c)(9) is provided for each facility for which the consolidated report is submitted.

(5) The Administrator will review the report received and determine whether it is necessary to update the default utilization rates and by-product formation rates in Tables I–3, I–4, I–11, and I–12 of this subpart and default destruction or removal efficiency values in Table I–16 of this subpart based on the following:

(i) Whether the revised default utilization and by-product formation rates and destruction or removal efficiency

values will result in a projected shift in emissions of 10 percent or greater.

(ii) Whether new platforms, processes, or facilities that are not captured in current default utilization and by-product formation rates and destruction or removal efficiency values should be included in revised values.

(iii) Whether new data are available that could expand the existing data set to include new gases, tools, or processes not included in the existing data set (i.e. gases, tools, or processes for which no data are currently available).

(6) The Administrator will review the reports within 120 days and will notify you of a determination whether it is necessary to update any default utilization and by-product formation rates and/or destruction or removal efficiency values. If the Administrator determines it is necessary to update default utilization and by-product formation rates and/or destruction or removal efficiency values, you will then have 180 days from the date you receive notice of the determination to execute the data collection and analysis plan described in the report and submit those data to the Administrator.

[75 FR 74818, Dec. 1, 2010, as amended at 77 FR 10381, Feb. 22, 2010; 78 FR 68215, Nov. 13, 2013; 78 FR 71954, Nov. 29, 2013; 79 FR 73785, Dec. 11, 2014]

§98.97 Records that must be retained.

In addition to the information required by §98.3(g), you must retain the following records:

(a) All data used and copies of calculations made as part of estimating gas consumption and emissions, including all spreadsheets.

(b) [Reserved]

(c) Documentation for the fab-specific engineering model used to apportion fluorinated GHG and N_2O consumption. This documentation must be part of your site GHG Monitoring Plan as required under §98.3(g)(5). At a minimum, you must retain the following:

(1) A clear, detailed description of the fab-specific model, including how it was developed; the quantifiable metric used in the model; all sources of information, equations, and formulas, each with clear definitions of terms and variables; all apportioning factors used to apportion fluorinated GHG and N_2O; and a clear record of any changes made to the model while it was used to apportion fluorinated GHG and N_2O consumption across process sub-types, process types, tools with and without abatement systems, stack systems, and/or fabs.

(2) Sample calculations used for developing the gas apportioning factors (f_{ij}) for the two fluorinated GHGs used at your facility in the largest quantities, on a mass basis, during the reporting year.

(3) If you develop apportioning factors through the use of direct measurement according to §98.94(c)(3), calculations and data used to develop each gas apportioning factor.

(4) Calculations and data used to determine and document that the fab was operating at representative operating levels, as defined in §98.98, during the apportioning model verification specified in §98.94(c).

(d) For all abatement systems through which fluorinated GHGs or N_2O flow at your facility, and for which you are reporting controlled emissions, the following in paragraphs (d)(1) to (9) of this section:

(1) Records of the information in paragraphs (d)(1)(i) though (iv) of this section:

(i) Documentation to certify that each abatement system or group of abatement systems is installed, maintained, and operated in accordance with the site maintenance plan for abatement systems that is specified in paragraph (d)(9) of this section.

(ii) Documentation from the abatement system supplier describing the abatement system's designed purpose and emission control capabilities for fluorinated GHG and N_2O for which the systems or group of systems is certified to abate, where available.

(iii) If you use default destruction or removal efficiency values in your emissions calculations under §98.93(a), (b), and/or (i), certification that the abatement systems for which emissions are being reported were specifically designed for fluorinated GHG and N_2O abatement, as required under §98.94(f)(3), and certification that the site maintenance plan includes manufacturer's recommendations and specifications for installation, operation,

and maintenance for all applicable abatement systems.

(iv) Certification that you have included and accounted for all abatement systems and any respective downtime in your emissions calculations under § 98.93(i)(3), as required under § 98.94(f)(3).

(2) Abatement system calibration and maintenance records.

(3) Where the default destruction or removal efficiency value is used, documentation from the abatement system supplier describing the equipment's designed purpose and emission control capabilities for fluorinated GHG and N_2O.

(4) Where properly measured site-specific destruction or removal efficiencies are used to report emissions, the information in paragraphs (d)(4)(i) though (vi) of this section:

(i) Dated certification by the technician who made the measurement that the destruction or removal efficiency is calculated in accordance with methods in EPA 430–R–10–003 (incorporated by reference, see § 98.7) and, if applicable Appendix A of this subpart, or an alternative method approved by the Administrator as specified in § 98.94(k), complete documentation of the results of any initial and subsequent tests, the final report as specified in EPA 430–R–10–003 (incorporated by reference, see § 98.7) and, if applicable, the records and documentation specified in Appendix A of this subpart including the information required in paragraph (b)(7) of Appendix A of this subpart, or a final report as specified in an alternative method approved by the Administrator as specified in § 98.94(k).

(ii) The average destruction or removal efficiency of the abatement systems operating during the reporting year for each process type and gas combination.

(iii) A description of the calculation used to determine the average destruction or removal efficiency for each process type and gas combination, including all inputs to the calculation.

(iv) The records of destruction or removal efficiency measurements for abatement systems for all tests that have been used to determine the site-specific destruction or removal efficiencies currently being used.

(v) A description of the method used for randomly selecting abatement systems for testing.

(vi) The total number of systems for which destruction or removal efficiency was properly measured for each process type and gas combination for the reporting year.

(5) In addition to the inventory specified in § 98.96(p), the information in paragraphs (d)(5)(i) though (iii) of this section:

(i) The number of abatement systems of each manufacturer, and model numbers, and the manufacturer's claimed fluorinated GHG and N_2O destruction or removal efficiency, if any.

(ii) Records of destruction or removal efficiency measurements over the in-use life of each abatement system.

(iii) A description of the tool, with the process type or sub-type, for which the abatement system treats exhaust.

(6) Records of all inputs and results of calculations made accounting for the uptime of abatement systems used during the reporting year, in accordance with Equations I–15 or I–23 of this subpart, as applicable. The inputs should include an indication of whether each value for destruction or removal efficiency is a default value or a measured site-specific value.

(7) Records of all inputs and results of calculations made to determine the average weighted fraction of each gas destroyed or removed in the abatement systems for each stack system using Equation I–24 of this subpart, if applicable. The inputs should include an indication of whether each value for destruction or removal efficiency is a default value or a measured site-specific value.

(8) Records of all inputs and the results of the calculation of the facility-wide emission destruction or removal efficiency factor calculated according to Equations I–26, I–27, and I–28 of this subpart.

(9) A site maintenance plan for abatement systems, which must be maintained on-site at the facility as part of the facility's GHG Monitoring Plan as described in § 98.3(g)(5), and be developed and implemented according to paragraphs (d)(9)(i) through (iii) of this section.

(i) The site maintenance plan for abatement systems must be based on the abatement system manufacturer's recommendations and specifications for installation, operation, and maintenance if you use default destruction and removal efficiency values in your emissions calculations under §98.93(a), (b), and/or (i). If the manufacturer's recommendations and specifications for installation, operation, and maintenance are not available, you cannot use default destruction and removal efficiency values in your emissions calculations under §98.93(a), (b), and/or (i). If you use an average of properly measured destruction or removal efficiencies determined in accordance with the procedures in §98.94(f)(4)(i) through (vi), the site maintenance plan for abatement systems must be based on the abatement system manufacturer's recommendations and specifications for installation, operation, and maintenance, where available. If you deviate from the manufacturer's recommendations and specifications, you must include documentation that demonstrates how the deviations do not negatively affect the performance or destruction or removal efficiency of the abatement systems.

(ii) The site maintenance plan for abatement systems must include a defined preventative maintenance process and checklist.

(iii) The site maintenance plan for abatement systems must include a corrective action process that you must follow whenever an abatement system is found to be not operating properly.

(e) Purchase records for gas purchased.

(f) Invoices for gas purchases and sales.

(g) Documents and records used to monitor and calculate abatement system uptime.

(h) GHG Monitoring Plans, as described in §98.3(g)(5), must be completed by April 1, 2011. You must update your GHG Monitoring Plan to comply with §98.94(c) consistent with the requirements in §98.3(g)(5)(iii).

(i) Retain the following records for each fab for which you elect to calculate fab-level emissions of fluorinated GHG using the procedures specified in §98.93(i)(3) or (4).

(1) Document all stack systems with emissions of fluorinated GHG that are less than 10,000 metric tons of CO_2e per year and all stack systems with emissions of 10,000 metric tons CO_2e per year or more. Include the data and calculation used to develop the preliminary estimate of emissions for each stack system.

(2) For each stack system, identify the method used to calculate annual emissions; either §98.93(i)(3) or (4).

(3) The identity and total annual consumption of each gas identified as an intermittent low use fluorinated GHG as specified in §98.93(i)(4)(i) and defined in §98.98.

(4) The emissions test data and reports (see §98.94(j)(4)) and the calculations used to determine the fab-specific emission factor, including the actual fab-specific emission factor, the average hourly emission rate of each fluorinated GHG from the stack system during the test and the stack system activity rate during the test. The report must also contain any changes in the stack system configuration during or between tests in a reporting year.

(5) The fab-specific emission factor and the calculations and data used to determine the fab-specific emission factor for each fluorinated GHG and by-product, as calculated using Equations I–19 and I–20 of §98.93(i)(3).

(6) Calculations and data used to determine annual emissions of each fluorinated GHG for each fab.

(7) Calculations and data used to determine and document that the fab was operating at representative operating levels, as defined in §98.98, during the stack testing period.

(8) A copy of the certification that no significant changes in stack system flow configuration occurred between tests conducted for any particular fab in a reporting year, as required by §98.94(j)(1)(iv) and any calculations and data supporting the certification.

(9) The number of tools vented to each stack system in the fab.

(j) If you report the approximate percentage of total GHG emissions from research and development activities under §98.96(x), documentation for the determination of the percentage of total emissions of each fluorinated

GHG and/or N_2O attributable to research and development activities, as defined in § 98.6.

(k) Annual gas consumption for each fluorinated GHG and N_2O as calculated in Equation I–11 of this subpart, including where your fab used less than 50 kg of a particular fluorinated GHG or N_2O used at your facility for which you have not calculated emissions using Equations I–6, I–7, I–8, I–9, I–10, I–21, or I–22 of this subpart, the chemical name of the GHG used, the annual consumption of the gas, and a brief description of its use.

(l) All inputs used to calculate gas consumption in Equation I–11 of this subpart, for each fluorinated GHG and N_2O used.

(m) Annual amount of each fluorinated GHG consumed for process sub-type, process type, stack system, or fab, as appropriate, and the annual amount of N_2O consumed for the aggregate of all chemical vapor deposition processes and for the aggregate of all other electronics manufacturing production processes, as calculated using Equation I–13 of this subpart.

(n) Disbursements for each fluorinated GHG and N_2O during the reporting year, as calculated using Equation I–12 of this subpart and all inputs used to calculate disbursements for each fluorinated GHG and N_2O used in Equation I–12 of this subpart, including all fab-wide gas-specific heel factors used for each fluorinated GHG and N_2O. If your fab used less than 50 kg of a particular fluorinated GHG during the reporting year, fab-wide gas-specific heel factors do not need to be reported for those gases.

(o) Fraction of each fluorinated GHG or N_2O fed into a process sub-type, process type, stack system, or fab that is fed into tools connected to abatement systems.

(p) Fraction of each fluorinated GHG or N_2O destroyed or removed in abatement systems connected to process tools where process sub-type, process type j is used, or to process tools vented to stack system j or fab f.

(q) All inputs and results of calculations made accounting for the uptime of abatement systems used during the reporting year, or during an emissions sampling period, in accordance with Equations I–15 and/or I–23 of this subpart, as applicable.

(r) For fluorinated heat transfer fluid emissions, inputs to the fluorinated heat transfer fluid mass balance equation, Equation I–16 of this subpart, for each fluorinated heat transfer fluid used.

(s) Where missing data procedures were used to estimate inputs into the fluorinated heat transfer fluid mass balance equation under § 98.95(b), the estimates of those data.

[75 FR 74818, Dec. 1, 2010, as amended at 78 FR 68218, Nov. 13, 2013]

§ 98.98 Definitions.

Except as provided in this section, all of the terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part. If a conflict exists between a definition provided in this subpart and a definition provided in subpart A, the definition in this subpart takes precedence for the reporting requirements in this subpart.

Abatement system means a device or equipment that is designed to destroy or remove fluorinated GHGs or N_2O in exhaust streams from one or more electronics manufacturing production processes, or for which the destruction or removal efficiency for a fluorinated GHG or N_2O has been properly measured according to the procedures under § 98.94(f)(4), even if that abatement system is not designed to destroy or remove fluorinated GHGs or N_2O. The device or equipment is only an abatement system for the individual fluorinated GHGs or N_2O that it is designed to destroy or remove or for the individual fluorinated GHGs or N_2O for which destruction or removal efficiencies were properly measured according to the procedures under § 98.94(f)(4).

Actual gas consumption means the quantity of gas used during wafer/substrate processing over some period based on a measured change in gas container weight or gas container pressure or on a measured volume of gas.

By-product formation means the creation of fluorinated GHGs during electronics manufacturing production processes or the creation of fluorinated GHGs by an abatement system. Where the procedures in § 98.93(a) are used to

calculate annual emissions, by-product formation is the ratio of the mass of the by-product formed to the mass flow of the input gas. Where the procedures in §98.93(i) are used to calculate annual emissions, by-product formation is the ratio of the mass of the by-product formed to the total mass flow of all fluorinated GHG input gases.

Chamber cleaning is a process type that consists of the process sub-types defined in paragraphs (1) through (3) of this definition.

(1) In situ plasma process sub-type consists of the cleaning of thin-film production chambers, after processing substrates, with a fluorinated GHG cleaning reagent that is dissociated into its cleaning constituents by a plasma generated inside the chamber where the film is produced.

(2) Remote plasma process sub-type consists of the cleaning of thin-film production chambers, after processing substrates, with a fluorinated GHG cleaning reagent dissociated by a remotely located plasma source.

(3) In situ thermal process sub-type consists of the cleaning of thin-film production chambers, after processing substrates, with a fluorinated GHG cleaning reagent that is thermally dissociated into its cleaning constituents inside the chamber where thin films are produced.

Controlled emissions means the quantity of emissions that are released to the atmosphere after application of an emission control device (*e.g.*, abatement system).

Destruction or removal efficiency (DRE) means the efficiency of an abatement system to destroy or remove fluorinated GHGs, N_2O, or both. The destruction or removal efficiency is equal to one minus the ratio of the mass of all relevant GHGs exiting the abatement system to the mass of GHG entering the abatement system. When GHGs are formed in an abatement system, destruction or removal efficiency is expressed as one minus the ratio of amounts of exiting GHGs to the amounts entering the system in units of CO_2-equivalents (CO_2e).

Fab means the portion of an electronics manufacturing facility located in a separate physical structure that began manufacturing on a certain date.

Fluorinated heat transfer fluids means fluorinated GHGs used for temperature control, device testing, cleaning substrate surfaces and other parts, and soldering in certain types of electronics manufacturing production processes. Fluorinated heat transfer fluids do not include fluorinated GHGs used as lubricants or surfactants. For fluorinated heat transfer fluids under this subpart I, the lower vapor pressure limit of 1 mm Hg in absolute at 25 °C in the definition of *Fluorinated greenhouse gas* in §98.6 shall not apply. Fluorinated heat transfer fluids used in the electronics manufacturing sector include, but are not limited to, perfluoropolyethers, perfluoroalkanes, perfluoroethers, tertiary perfluoroamines, and perfluorocyclic ethers.

Fully fluorinated GHGs means fluorinated GHGs that contain only single bonds and in which all available valence locations are filled by fluorine atoms. This includes, but is not limited to, saturated perfluorocarbons, SF_6, NF_3, SF_5CF_3, C_4F_8O, fully fluorinated linear, branched, and cyclic alkanes, fully fluorinated ethers, fully fluorinated tertiary amines, fully fluorinated aminoethers, and perfluoropolyethers.

Gas utilization means the fraction of input N_2O or fluorinated GHG converted to other substances during the etching, deposition, and/or wafer and chamber cleaning processes. Gas utilization is expressed as a rate or factor for specific electronics manufacturing process sub-types or process types.

Heel means the amount of gas that remains in a gas container after it is discharged or off-loaded; heel may vary by container type.

Input gas means a fluorinated GHG or N_2O used in one of the processes described in §98.90(a)(1) through (4)

Intermittent low-use fluorinated GHG, for the purposes of determining fluorinated GHG emissions using the stack testing method, means a fluorinated GHG that meets all of the following:

(1) The fluorinated GHG is used by the fab but is not used during the period of stack testing for the fab/stack system.

(2) The emissions of the fluorinated GHG, estimated using the methods in § 98.93(i)(4) do not constitute more than 5 percent of the total fluorinated GHG emissions from the fab on a CO_2e basis.

(3) The sum of the emissions of all fluorinated GHGs that are considered intermittent low use gases does not exceed 10,000 metric tons CO_2e for the fab for that year, as calculated using the procedures specified in § 98.93(i)(1) of this subpart.

(4) The fluorinated GHG is not an expected or possible by-product identified in Table I–17 of this subpart.

Maximum substrate starts means for the purposes of Equation I–5 of this subpart, the maximum quantity of substrates, expressed as surface area, that could be started each month during a reporting year based on the equipment installed in that facility and assuming that the installed equipment were fully utilized. Manufacturing equipment is considered installed when it is on the manufacturing floor and connected to required utilities.

Modeled gas consumed means the quantity of gas used during wafer/substrate processing over some period based on a verified facility-specific engineering model used to apportion gas consumption.

Nameplate capacity means the full and proper charge of chemical specified by the equipment manufacturer to achieve the equipment's specified performance. The nameplate capacity is typically indicated on the equipment's nameplate; it is not necessarily the actual charge, which may be influenced by leakage and other emissions.

Operational mode means the time in which an abatement system is properly installed, maintained, and operated according to the site maintenance plan for abatement systems as required in § 98.94(f)(1) and defined in § 98.97(d)(9). This includes being properly operated within the range of parameters as specified in the site maintenance plan for abatement systems.

Plasma etching is a process type that consists of any production process using fluorinated GHG reagents to selectively remove materials from a substrate during electronics manufacturing. The materials removed may include SiO_2, SiO_X-based or fully organic-based thin-film material, SiN, SiON, Si_3N_4, SiC, SiCO, SiCN, etc. (represented by the general chemical formula, $Si_wO_XN_yX_z$ where w, x, y and z are zero or integers and X may be some other element such as carbon), substrate, or metal films (such as aluminum or tungsten).

Process sub-type is a set of similar manufacturing steps, more closely related within a broad process type. For example, the chamber cleaning process type includes in-situ plasma chamber cleaning, remote plasma chamber cleaning, and in-situ thermal chamber cleaning sub-types.

Process types are broad groups of manufacturing steps used at a facility associated with substrate (e.g., wafer) processing during device manufacture for which fluorinated GHG emissions and fluorinated GHG consumption is calculated and reported. The process types are Plasma etching/Wafer Cleaning and Chamber cleaning.

Properly measured destruction or removal efficiency means destruction or removal efficiencies measured in accordance with EPA 430–R–10–003 (incorporated by reference, see § 98.7), and, if applicable, Appendix A to this subpart, or by an alternative method approved by the Administrator as specified in § 98.94(k).

The Random Sampling Abatement System Testing Program (RSASTP) means the required frequency for measuring the destruction or removal efficiencies of abatement systems in order to apply properly measured destruction or removal efficiencies to report controlled emissions.

Redundant abatement systems means a system that is specifically designed, installed and operated for the purpose of destroying fluorinated GHGs and N_2O gases, or for which the destruction or removal efficiency for a fluorinated GHG or N_2O has been properly measured according to the procedures under § 98.94(f)(4), and that is used as a backup to the main fluorinated GHGs and N_2O abatement system during those times when the main system is not functioning or operating in accordance with design and operating specifications.

Repeatable means that the variables used in the formulas for the facility's

engineering model for gas apportioning factors are based on observable and measurable quantities that govern gas consumption rather than engineering judgment about those quantities or gas consumption.

Representative operating levels means (for purposes of verification of the apportionment model or for determining the appropriate conditions for stack testing) operating the fab, in terms of substrate starts for the period of testing or monitoring, at no less than 50 percent of installed production capacity or no less than 70 percent of the average production rate for the reporting year, where production rate for the reporting year is represented in average monthly substrate starts. For the purposes of stack testing, the period for determining the representative operating level must be the period ending on the same date on which testing is concluded.

Stack system means one or more stacks that are connected by a common header or manifold, through which a fluorinated GHG-containing gas stream originating from one or more fab processes is, or has the potential to be, released to the atmosphere. For purposes of this subpart, stack systems do not include emergency vents or bypass stacks through which emissions are not usually vented under typical operating conditions.

Trigger point for change out means the residual weight or pressure of a gas container type that a facility uses as an indicator that operators need to change out that gas container with a full container. The trigger point is not the actual residual weight or pressure of the gas remaining in the cylinder that has been replaced.

Unabated emissions means a gas stream containing fluorinated GHG or N_2O that has exited the process, but which has not yet been introduced into an abatement system to reduce the mass of fluorinated GHG or N_2O in the stream. If the emissions from the process are not routed to an abatement system, or are routed to an abatement device that is not in an operational mode, unabated emissions are those fluorinated GHG or N_2O released to the atmosphere.

Uptime means the ratio of the total time during which the abatement system is in an operational mode, to the total time during which production process tool(s) connected to that abatement system are normally in operation.

Wafer cleaning is a process type that consists of any production process using fluorinated GHG reagents to clean wafers at any step during production.

Wafer passes is a count of the number of times a wafer substrate is processed in a specific process sub-type, or type. The total number of wafer passes over a reporting year is the number of wafer passes per tool multiplied by the number of operational process tools in use during the reporting year.

Wafer starts means the number of fresh wafers that are introduced into the fabrication sequence each month. It includes test wafers, which means wafers that are exposed to all of the conditions of process characterization, including but not limited to actual etch conditions or actual film deposition conditions.

[75 FR 74818, Dec. 1, 2010, as amended at 77 FR 10381, Feb. 22, 2012; 78 FR 68220, Nov. 13, 2013]

TABLE I–1 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS FOR THRESHOLD APPLICABILITY DETERMINATION

Product type	Emission factors EF_i					
	CF_4	C_2F_6	CHF_3	C_3F_8	NF_3	SF_6
Semiconductors (kg/m²)	0.90	1.00	0.04	0.05	0.04	0.20
LCD (g/m²)	0.50	NA	NA	NA	0.90	4.00
MEMS (kg/m²)	NA	NA	NA	NA	NA	1.02

NOTES: NA denotes not applicable based on currently available information.

[75 FR 74818, Dec. 1, 2010, as amended at 78 FR 68221, Nov. 13, 2013]

TABLE I–2 TO SUBPART I OF PART 98—EXAMPLES OF FLUORINATED GHGS USED BY THE ELECTRONICS INDUSTRY

Product type	Fluorinated GHGs and fluorinated heat transfer fluids used during manufacture
Electronics	CF_4, C_2F_6, C_3F_8, c-C_4F_8, c-C_4F_8O, C_4F_6, C_5F_8, CHF_3, CH_2F_2, NF_3, SF_6, and fluorinated HTFs (CF_3-(O-$CF(CF_3)$-$CF_2)_n$-(O-$CF_2)_m$-O-CF_3, C_nF_{2n+2}, $C_nF_{2n+1}(O)C_mF_{2m+1}$, C_nF_2O, $(C_nF_{2n+1})_3N$).

[77 FR 10381, Feb. 22, 2012]

TABLE I–3 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1-U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR SEMICONDUCTOR MANUFACTURING FOR 150 MM AND 200 MM WAFER SIZES

Table I–3 to Subpart I of Part 98—Default Emission Factors ($1-U_{ij}$) for Gas Utilization Rates (U_{ij}) and By-Product Formation Rates (B_{ijk}) for Semiconductor Manufacturing for 150mm and 200 mm Wafer Sizes

Process Type/ Sub-Type	Process Gas i												
	CF_4	C_2F_6	CHF_3	CH_2F_2	C_2HF_5	CH_3F	C_3F_8	C_4F_8	NF_3	SF_6	C_4F_6	C_5F_8	C_4F_8O
ETCHING/ WAFER CLEANING													
$1-U_i$	0.81	0.72	0.50	0.13	0.064	0.51	NA	0.14	0.19	0.55	0.17	0.072	NA
BCF_4	NA	0.10	0.085	0.079	0.077	NA	NA	0.11	0.0040	0.13	0.13	NA	NA
BC_2F_6	0.046	NA	0.030	0.025	0.024	NA	NA	0.037	0.025	0.11	0.11	0.014	NA
BC_4F_6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_4F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_5F_8	0.0012	NA	0.0012	NA	NA	NA	NA	0.0086	NA	NA	NA	NA	NA
$BCHF_3$	0.10	0.047	NA	0.049	NA	0.0034	NA	0.040	NA	0.0012	0.066	0.0039	NA
CHAMBER CLEANING													
In situ plasma cleaning													
$1-U_i$	0.92	0.55	NA	NA	NA	NA	0.40	0.10	0.18	NA	NA	NA	0.14
BCF_4	NA	0.21	NA	NA	NA	NA	0.20	0.11	0.050	NA	NA	NA	0.13
BC_2F_6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.045
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Remote plasma cleaning													
$1-U_i$	NA	NA	NA	NA	NA	NA	NA	NA	0.018	NA	NA	NA	NA
BCF_4	NA	NA	NA	NA	NA	NA	NA	NA	0.015	NA	NA	NA	NA
BC_2F_6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
In situ thermal cleaning													
$1-U_i$	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BCF_4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_2F_6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: NA = Not applicable; i.e., there are no applicable default emission factor measurements for this gas. This does not necessarily imply that a particular gas is not used in or emitted from a particular process sub-type or process type.

TABLE I–4 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR SEMICONDUCTOR MANUFACTURING FOR 300 MM AND 450 MM WAFER SIZE

Table I–4 to Subpart I of Part 98–Default Emission Factors ($1–U_{ij}$) for Gas Utilization Rates (U_{ij}) and By-Product Formation Rates (B_{ijk}) for Semiconductor Manufacturing for 300 mm and 450 mm Wafer Size

Process Type/Sub-Type	Process Gas i											
	CF_4	C_2F_6	CHF_3	CH_2F_2	CH_3F	C_3F_8	C_4F_8	NF_3	SF_6	C_4F_6	C_5F_8	C_4F_8O
	ETCHING/WAFER CLEANING											
$1-U_i$	0.65	0.80	0.42	0.21	0.33	0.30	0.18	0.15	0.32	0.15	0.10	NA
BCF_4	NA	0.21	0.095	0.049	0.045	0.21	0.045	0.046	0.040	0.059	0.11	NA
BC_2F_6	0.079	NA	0.064	0.052	0.00087	0.18	0.031	0.045	0.044	0.074	0.083	NA
BC_4F_6	NA	NA	0.00010	NA	NA	NA	0.018	NA	NA	NA	NA	NA
BC_4F_8	0.00063	NA	0.00080	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00012	NA
$BCHF_3$	0.011	NA	NA	0.050	0.0057	0.012	0.027	0.025	0.0037	0.019	0.0069	NA
BCH_2F_2	NA	NA	0.0036	NA	0.0023	NA	0.0015	0.00086	0.000029	0.000030	NA	NA
BCH_3F	0.0080	NA	0.0080	0.0080	NA	0.00073	NA	0.0080	NA	NA	NA	NA
	CHAMBER CLEANING											
	In situ plasma cleaning											
$1-U_i$	NA	NA	NA	NA	NA	NA	NA	0.23	NA	NA	NA	NA
BCF_4	NA	NA	NA	NA	NA	NA	NA	0.037	NA	NA	NA	NA
BC_2F_6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Remote plasma cleaning											
$1-U_i$	NA	NA	NA	NA	NA	0.063	NA	0.018	NA	NA	NA	NA
BCF_4	NA	NA	NA	NA	NA	NA	NA	0.075	NA	NA	NA	NA
BC_2F_6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table I–4 to Subpart I of Part 98–Default Emission Factors ($1-U_{ij}$) for Gas Utilization Rates (U_{ij}) and By-Product Formation Rates (B_{ijk}) for Semiconductor Manufacturing for 300 mm and 450 mm Wafer Size

Process Type/Sub-Type	Process Gas i											
	CF_4	C_2F_6	CHF_3	CH_2F_2	CH_3F	C_3F_8	C_4F_8	NF_3	SF_6	C_4F_6	C_5F_8	C_4F_8O
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	In situ thermal cleaning											
$1-U_i$	NA	NA	NA	NA	NA	NA	NA	0.28	NA	NA	NA	NA
BCF_4	NA	NA	NA	NA	NA	NA	NA	0.010	NA	NA	NA	NA
BC_2F_6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: NA = Not applicable; i.e., there are no applicable default emission factor measurements for this gas. This does not necessarily imply that a particular gas is not used in or emitted from a particular process sub-type or process type.

[78 FR 68221, Nov. 13, 2013]

TABLE I–5 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR MEMS MANUFACTURING

Process type factors	Process gas i											
	CF_4	C_2F_6	CHF_3	CH_2F_2	C_3F_8	c–C_4F_8	NF_3 Remote	NF_3	SF_6	C_4F_{6a}	C_5F_{8a}	$C_4F_8O_a$
Etch 1–U_i	0.7	[1]0.4	[1]0.4	[1]0.06	NA	[1]0.2	NA	0.2	0.2	0.1	0.2	NA
Etch BCF_4 ..	NA	[1]0.4	[1]0.07	[1]0.08	NA	0.2	NA	NA	NA	[1]0.3	0.2	NA
Etch BC_2F_6	NA	NA	NA	NA	NA	0.2	NA	NA	NA	[1]0.2	0.2	NA
CVD Chamber Cleaning 1–U_i	0.9	0.6	NA	NA	0.4	0.1	0.02	0.2	NA	NA	0.1	0.1
CVD Chamber Cleaning BCF_4 ..	NA	0.1	NA	NA	0.1	0.1	[2]0.02	[2]0.1	NA	NA	0.1	0.1
CVD Chamber Cleaning BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.4

Notes: NA = Not applicable; i.e., there are no applicable default emission factor measurements for this gas. This does not necessarily imply that a particular gas is not used in or emitted from a particular process sub-type or process type.

[1] Estimate includes multi-gas etch processes.

[2] Estimate reflects presence of low-k, carbide and multi-gas etch processes that may contain a C-containing fluorinated GHG additive.

[75 FR 74818, Dec. 1, 2010, as amended at 78 FR 68225, Nov. 13, 2013]

TABLE I–6 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR LCD MANUFACTURING

Process type factors	Process gas i								
	CF_4	C_2F_6	CHF_3	CH_2F_2	C_3F_8	$c-C_4F_8$	NF_3 Remote	NF_3	SF_6
Etch $1–U_i$	0.6	NA	0.2	NA	NA	0.1	NA	NA	0.3
Etch BCF_4	NA	NA	0.07	NA	NA	0.009	NA	NA	NA
Etch $BCHF_3$	NA	NA	NA	NA	NA	0.02	NA	NA	NA
Etch BC_2F_4	NA	NA	0.05	NA	NA	NA	NA	NA	NA
CVD Chamber Cleaning $1–U_i$	NA	NA	NA	NA	NA	NA	0.03	0.3	0.9

Notes: NA = Not applicable; i.e., there are no applicable default emission factor measurements for this gas. This does not necessarily imply that a particular gas is not used in or emitted from a particular process sub-type or process type.

[75 FR 74818, Dec. 1, 2010, as amended at 78 FR 68225, Nov. 13, 2013]

TABLE I–7 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR PV MANUFACTURING

Process type factors	Process gas i								
	CF_4	C_2F_6	CHF_3	CH_2F_2	C_3F_8	$c-C_4F_8$	NF_3 Remote	NF_3	SF_6
Etch $1–U_i$	0.7	0.4	0.4	NA	NA	0.2	NA	NA	0.4
Etch BCF_4	NA	0.2	NA	NA	NA	0.1	NA	NA	NA
Etch BC_2F_6	NA	NA	NA	NA	NA	0.1	NA	NA	NA
CVD Chamber Cleaning $1–U_i$	NA	0.6	NA	NA	0.1	0.1	NA	0.3	0.4
CVD Chamber Cleaning BCF_4	NA	0.2	NA	NA	0.2	0.1	NA	NA	NA

Notes: NA = Not applicable; i.e., there are no applicable default emission factor measurements for this gas. This does not necessarily imply that a particular gas is not used in or emitted from a particular process sub-type or process type.

[75 FR 74818, Dec. 1, 2010, as amended at 78 FR 68225, Nov. 13, 2013]

TABLE I–8 TO SUBPART I OF PART 98— DEFAULT EMISSION FACTORS ($1–U_{N2O,j}$) FOR N_2O UTILIZATION ($U_{N2O,j}$)

Process type factors	N_2O
CVD $1–U_i$	0.8
Other Manufacturing Process $1–U_i$	1.0

TABLE I–9 TO SUBPART I OF PART 98—METHODS AND PROCEDURES FOR CONDUCTING EMISSIONS TEST FOR STACK SYSTEMS

Table I-9 to Subpart I of Part 98—Methods and Procedures for Conducting Emissions Tests for Stack Systems

For each stack system for which you use the "stack test method" to calculate annual emissions...	You must...	Using...
For each fluorinated GHG	Measure the concentration in the stack system.	Method 320 at 40 CFR part 63, appendix A or ASTM D6348-03[a] (incorporated by reference, see § 98.7). Conduct the test run for a minimum of 8 hours for each stack system.
	Select sampling port locations and the number of traverse points.	Method 1 or 1A at 40 CFR part 60, appendix A-1.
	Determine gas velocity and volumetric flow rate.	Method 2, 2A, 2C, 2D, 2F, or 2G at 40 CFR part 60, appendix A-1 and A-2.
	Determine gas molecular weight.	Method 3, 3A, or 3B at 40 CFR part 60, appendix A-2 using the same sampling site and time as fluorinated GHG sampling.
	Measure gas moisture content.	Method 4 at 40 CFR part 60, appendix A-3, or using FTIR[b].

[a] Reporters may use ASTM D6348-03 (incorporated by reference, see § 98.7) as an alternative to Method 320 at 40 CFR part 63, appendix A, with the following additional requirements: (1) The test plan preparation and implementation in the Annexes to ASTM D6348-03, Sections A1 through A8 are mandatory; and (2) In ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent recovery (%R) must be determined for each target analyte (Equation A5.5). The reporter must also follow Section 4.1 of ASTM D6348-03 to ensure F-GHG remain in the gas phase. In order for the test data to be acceptable for a compound, the percent recovery must be between 70 and 130 percent. If the percent recovery does not meet this criterion for a target compound, the test data are not acceptable for that compound and the test must be repeated for that analyte (i.e., the sampling and/or analytical procedure should be adjusted before a retest). The percent recovery value for each compound must be reported in the test report, required under 40 CFR 98.94(j)(4), and all field measurements must be corrected with the calculated percent recovery value for that compound by using the following equation: Reported Result = Measured Concentration in the stack x (100/% R).

[b] Extractive FTIR is an acceptable method, in lieu of Method 4 at 40 CFR part 60 appendix A, of determining the volumetric concentrations of moisture in semiconductor stack gas streams. The spectral calibrations employed should bracket the anticipated range of optical depths (H_2O concentration in parts per million multiplied by FTIR sample cell path length) measured in the field for moisture saturated (relative humidity approximately 100 percent) air streams at temperatures characterized via Method 2 at 40 CFR part 60 appendix A, within the stack. The HITRAN molecular spectroscopic database is an

example of a widely used international standard of IR absorption parameters that provide accurate H_2O FTIR calibrations at atmospheric conditions. Field measurements should be verified to be in line with moisture saturated wet scrubber exhaust concentrations at measured temperatures. Field measurements at saturated conditions should be verified to be consistent with published water vapor pressure curves at the current stack temperatures (Perry, R.H. and D.W. Green. Perry's Chemical Engineer's Handbook (8th Edition). McGraw-Hill Publishing Company, Inc. New York, New York. 2008). For unsaturated conditions, field measurements should be verified using a single point verification of the FTIR moisture reading using Method 4 at 40 CFR part 60 appendix A, or a NIST traceable hygrometer accurate to +/- 2 percent relative humidity. The FTIR moisture reading shall agree within 10 percent of the moisture measurement obtained using Method 4 at 40 CFR part 60 appendix A or a NIST traceable hygrometer.

[78 FR 68227, Nov. 13, 2013]

TABLE I–10 TO SUBPART I OF PART 98—MAXIMUM FIELD DETECTION LIMITS APPLICABLE TO FLUORINATED GHG CONCENTRATION MEASUREMENTS FOR STACK SYSTEMS

Fluorinated GHG Analyte	Maximum field detection limit (ppbv)
CF_4	20
C_2F_6	20
C_3F_8	20
C_4F_6	20
C_5F_8	20
c–C_4F_8	20
CH_2F_2	40
CH_3F	40
CHF_3	20
NF_3	20
SF_6	4
Other fully fluorinated GHGs	20
Other fluorinated GHGs	40

ppbv—Parts per billion by volume.

[78 FR 68228, Nov. 13, 2013]

TABLE I–11 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR SEMICONDUCTOR MANUFACTURING FOR USE WITH THE STACK TEST METHOD (150 MM AND 200 MM WAFERS)

Table I–11 to Subpart I of Part 98–Default Emission Factors ($1–U_{ij}$) for Gas Utilization Rates (U_{ij}) and By-Product Formation Rates (B_{ijk}) for Semiconductor Manufacturing for use with the Stack Test Method (150 mm and 200 mm wafers)

All Processes	Process Gas i													
	CF_4	C_2F_6	CHF_3	CH_2F_2	C_2HF_5	CH_3F	C_3F_8	C_4F_8	NF_3	NF_3 Remote	SF_6	C_4F_6	C_5F_8	C_4F_8O
$1-U_i$	0.85	0.56	0.50	0.13	0.064	0.51	0.40	0.13	0.16	0.018	0.55	0.17	0.072	0.14
BCF_4	NA	0.19	0.085	0.079	0.077	NA	0.20	0.11	0.045	0.015	0.13	0.13	NA	0.13
BC_2F_6	0.046	NA	0.030	0.025	0.024	0.0034	NA	0.037	0.025	NA	0.11	0.11	0.014	0.045
BC_4F_6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_4F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_5F_8	0.0012	NA	0.0012	NA	NA	NA	NA	0.0086	NA	NA	NA	NA	NA	NA
$BCHF_3$	0.10	0.047	NA	0.049	NA	NA	NA	0.040	NA	NA	0.0012	0.066	0.0039	NA

Notes: NA = Not applicable; i.e., there are no applicable emission factor measurements for this gas. This does not necessarily imply that a particular gas is not used in or emitted from a particular process sub-type or process type.

[78 FR 68229, Nov. 13, 2013]

TABLE I–12 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR SEMICONDUCTOR MANUFACTURING FOR USE WITH THE STACK TEST METHOD (300 MM AND 450 MM WAFERS)

Table I–12 to Subpart I of Part 98–Default Emission Factors ($1–U_{ij}$) for Gas Utilization Rates (U_{ij}) and By-Product Formation Rates (B_{ijk}) for Semiconductor Manufacturing for use with the Stack Test Method (300 mm and 450 mm Wafer Sizes)

All Processes	Process Gas i												
	CF_4	C_2F_6	CHF_3	CH_2F_2	CH_3F	C_3F_8	C_4F_8	NF_3	NF_3 Remote	SF_6	C_4F_6	C_5F_8	C_4F_8O
$1-U_i$	0.65	0.80	0.42	0.21	0.33	0.20	0.18	0.20	0.018	0.32	0.15	0.10	NA
BCF_4	NA	0.21	0.095	0.049	0.045	0.21	0.045	0.040	0.075	0.040	0.059	0.11	NA
BC_2F_6	0.079	NA	0.064	0.052	0.00087	0.18	0.031	0.045	NA	0.044	0.074	0.083	NA
BC_4F_6	NA	NA	0.00010	NA	NA	NA	0.018	NA	NA	NA	NA	NA	NA
BC_4F_8	0.00063	NA	0.00080	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00012	NA
BCH_2F_2	NA	NA	0.0036	NA	0.0023	NA	0.0015	0.00086	NA	0.000029	0.000030	NA	NA
BCH_3F	0.0080	NA	0.0080	0.0080	NA	0.00073	NA	0.0080	NA	NA	NA	NA	NA
$BCHF_3$	0.011	NA	NA	0.050	0.0057	0.012	0.027	0.025	NA	0.0037	0.019	0.0069	NA

Notes: NA = Not applicable; i.e., there are no applicable emission factor measurements for this gas. This does not necessarily imply that a particular gas is not used in or emitted from a particular process sub-type or process type.

[78 FR 68230, Nov. 13, 2013]

TABLE I–13 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR LCD MANUFACTURING FOR USE WITH THE STACK TEST METHOD

Table I–13 to Subpart I of Part 98—Default Emission Factors ($1–U_{ij}$) for Gas Utilization Rates (U_{ij}) and By-Product Formation Rates (B_{ijk}) for LCD Manufacturing for use with the Stack Test Method

Process Gas (i)	Process Gas i								
	CF_4	C_2F_6	CHF_3	CH_2F_2	C_3F_8	c-C_4F_8	NF_3 Remote	NF_3	SF_6
$1–U_i$	0.6	NA	0.2	NA	NA	0.1	0.03	0.3	0.6
BCF_4	NA	NA	0.07	NA	NA	0.009	NA	NA	NA
$BCHF_3$	NA	NA	NA	NA	NA	0.02	NA	NA	NA
BC_2F_6	NA	NA	0.05	NA	NA	NA	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: NA = Not applicable; i.e., there are no applicable emission factor measurements for this gas. This does not necessarily imply that a particular gas is not used in or emitted from a particular process sub-type or process type.

[78 FR 68231, Nov. 13, 2013]

TABLE I–14 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1–U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR PV MANUFACTURING FOR USE WITH THE STACK TEST METHOD

Table I–14 to Subpart I of Part 98—Default Emission Factors ($1–U_{ij}$) for Gas Utilization Rates (U_{ij}) and By-Product Formation Rates (B_{ijk}) for PV Manufacturing for use with the Stack Test Method

Process Gas (i)	Process Gas i								
	CF_4	C_2F_6	CHF_3	CH_2F_2	C_3F_8	c-C_4F_8	NF_3 Remote	NF_3	SF_6
$1–U_i$	0.7	0.6	0.4	NA	0.4	0.2	NA	0.2	0.4
BCF_4	NA	0.2	NA	NA	0.2	0.1	NA	0.05	NA
BC_2F_6	NA	NA	NA	NA	NA	0.1	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: NA = Not applicable; i.e., there are no applicable emission factor measurements for this gas. This does not necessarily imply that a particular gas is not used in or emitted from a particular process sub-type or process type.

[78 FR 68232, Nov. 13, 2013]

TABLE I–15 TO SUBPART I OF PART 98—DEFAULT EMISSION FACTORS ($1-U_{ij}$) FOR GAS UTILIZATION RATES (U_{ij}) AND BY-PRODUCT FORMATION RATES (B_{ijk}) FOR MEMS MANUFACTURING FOR USE WITH THE STACK TEST METHOD

Table I–15 to Subpart I of Part 98–Default Emission Factors ($1-U_{ij}$) for Gas Utilization Rates (U_{ij}) and By-Product Formation Rates (B_{ijk}) for MEMS Manufacturing for use with the Stack Test Method

All Processes	Process Gas i											
	CF_4	C_2F_6	CHF_3	CH_2F_2	C_3F_8	c-C_4F_8	NF_3 Remote	NF_3	SF_6	C_4F_6	C_5F_8	C_4F_8O
$1-U_i$	0.9	0.6	0.4	0.1	0.4	0.1	0.2	0.2	0.2	0.1	0.1	0.1
BCF_4	NA	0.2	0.07	0.08	0.1	0.1	[a]0.02	0.09	NA	0.3	0.1	0.1
BC_2F_6	NA	NA	NA	NA	NA	[a]0.04	NA	NA	NA	0.2	0.04	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: NA = Not applicable; i.e., there are no applicable emission factor measurements for this gas. This does not necessarily imply that a particular gas is not used in or emitted from a particular process sub-type or process type.

[a] Estimate reflects presence of low-k, carbide and multi-gas etch processes that may contain a C-containing fluorinated GHG additive.

[78 FR 68233, Nov. 13, 2013]

TABLE I–16 TO SUBPART I OF PART 98—DEFAULT EMISSION DESTRUCTION OR REMOVAL EFFICIENCY (DRE) FACTORS FOR ELECTRONICS MANUFACTURING

Manufacturing type/process type/gas	Default DRE (percent)
MEMS, LCDs, and PV Manufacturing	60
Semiconductor Manufacturing:	
Plasma Etch/Wafer Clean Process Type:	
CF_4	75
CH_3F	97
CHF_3	97
CH_2F_2	97
C_2F_6	97
C_3F_8	97
C_4F_6	97
C_4F_8	97
C_5F_8	97
SF_6	97
NF_3	96
All other carbon-based plasma etch/wafer clean fluorinated GHG	60
Chamber Clean Process Type:	
NF_3	88
All other chamber clean fluorinated GHG	60
N_2O Processes:	
CVD and all other N_2O-using processes	60

[78 FR 68234, Nov. 13, 2013]

TABLE I–17 TO SUBPART I OF PART 98—EXPECTED AND POSSIBLE BY-PRODUCTS FOR ELECTRONICS MANUFACTURINGLG

For each stack system for which you use the "stack test method" to calculate annual emissions, you must measure the following:	If emissions are detected intermittently, use the following procedures:	If emissions are not detected, use the following procedures:
Expected By-products: CF_4, C_2F_6, CHF_3, CH_2F_2, CH_3F	Use the measured concentration for "X_{ksm}" in Equation I–18 when available and use one-half of the field detection limit you determined for the fluorinated GHG according to §98.94(j)(2) for the value of "X_{ksm}" when the fluorinated GHG is not detected.	Use one-half of the field detection limit you determined for the fluorinated GHG according to §98.94(j)(2) for the value of "X_{ksm}" in Equation I–18.
Possible By-products: C_3F_8, C_4F_6, c-C_4F_8, C_5F_8	Use the measured concentration for "X_{ksm}" in Equation I–18 when available and use one-half of the field detection limit you determined for the fluorinated GHG according to §98.94(j)(2) for the value of "X_{ksm}" when the fluorinated GHG is not detected.	Assume zero emissions for that fluorinated GHG for the tested stack system.

[78 FR 68234, Nov. 13, 2013]

APPENDIX A TO SUBPART I OF PART 98—ALTERNATIVE PROCEDURES FOR MEASURING POINT-OF-USE ABATEMENT DEVICE DESTRUCTION OR REMOVAL EFFICIENCY

If you are measuring destruction or removal efficiency of a point-of-use abatement device according to EPA 430–R–10–003 (incorporated by reference, see §98.7) as specified in §98.94(f)(4), you may follow the alternative procedures specified in paragraphs (a) through (c) of this appendix.

(a) In place of the Quadrupole Mass Spectrometry protocol requirements specified in section 2.2.4 of EPA 430–R–10–003 (incorporated by reference, see §98.7), you must conduct mass spectrometry testing in accordance with the provisions in paragraph (a)(1) through (a)(15) of this appendix.

(1) *Detection limits.* The mass spectrometer chosen for this application must have the necessary sensitivity to detect the selected effluent species at or below the maximum field detection limits specified in Table 3 of section 2.2.7 of EPA 430–R–10–003 (incorporated by reference, see §98.7).

(2) *Sampling location.* The sample at the inlet of the point-of-use abatement device must be taken downstream of the process tool and pump package. The sample exhaust must be vented back into the corrosive house ventilation system at a point downstream of the sample inlet location.

(3) *Sampling conditions.* For etch processes, destruction or removal efficiencies must be determined while etching a substrate (product, dummy, or test). For chemical vapor deposition processes, destruction or removal efficiencies must be determined during a chamber clean after deposition (destruction or removal efficiencies must not be determined in a clean chamber). All sampling must be performed non-intrusively during wafer processing. Samples must be drawn through the mass spectrometer source by an

external sample pump. Because of the volatility, vapor pressure, stability and inertness of CF_4, C_2F_6, C_3F_8, CHF_3, NF_3, and SF_6, the sample lines do not need to be heated.

(4) Mass spectrometer parameters. The specific mass spectrometer operating conditions such as electron energy, secondary electron multiplier voltage, emission current, and ion focusing voltage must be selected according to the specifications provided by the mass spectrometer manufacturer, the mass spectrometer system manual, basic mass spectrometer textbook, or other such sources. The mass spectrometer responses to each of the target analytes must all be calibrated under the same mass spectrometer operating conditions.

(5) *Flow rates.* A sample flow rate of 0.5–1.5 standard liters per minute (slm) must be drawn from the process tool exhaust stream under study.

(6) *Sample frequency.* The mass spectrometer sampling frequency for etch processes must be in the range of 0.5 to 1 cycles per second, and for chemical vapor deposition processes must be in the range of 0.25 to 0.5 cycles per second. As an alternative you may use the sampling frequencies specified in section 2.2.4 of EPA 430–R–10–003 (incorporated by reference, see §98.7).

(7) *Dynamic dilution calibration parameters.* The quadrupole mass spectrometer must be calibrated for both mass location and response to analytes. A dynamic dilution calibration system may be used to perform both types of mass spectrometer system calibrations using two mass flow controllers. Use one mass flow controller to regulate the flow rate of the standard component used to calibrate the system and the second mass flow controller to regulate the amount of diluent gas used to mix with the standard to generate the calibration curve for each compound of interest. The mass flow controller must be calibrated using the single component gas being used with them, for example, nitrogen (N_2) for the diluent. A mass flow controller used with calibration mixtures must be calibrated with the calibration mixture balance gas (for example, N_2 or He) if the analyte components are 2 percent or less of the volume of the sample. All calibration mixtures must be National Institute of Standards and Technology Traceable gases or equivalent. They must be calibrated over their range of use and must be operated in their experimentally determined dynamic linear range. If compressed gas standards cannot be brought into the fab, metered gas flows of target compounds into the process chamber, under no thermal or plasma conditions and with no wafer(s) present, and with no process emissions from other tools contributing to the sample location, must then be performed throughout the appropriate concentration ranges to derive calibration curves for the subsequent destruction or removal efficiency tests.

(8) *Mass location calibration.* A mixture containing 1 percent He, Ar, Kr, and Xe in a balance gas of nitrogen must be used to assure the alignment of the quadrupole mass filter (see EPA Method 205 at 40 CFR part 51, appendix M as reference). The mass spectrometer must be chosen so that the mass range is sufficient to detect the predominant peaks of the components under study.

(9) *Quadrupole mass spectrometer response calibration.* A calibration curve must be generated for each compound of interest.

(10) *Calibration frequency.* The mass spectrometer must be calibrated at the start of testing a given process. The calibration must be checked at the end of testing.

(11) *Calibration range.* The mass spectrometer must be calibrated over the expected concentration range of analytes using a minimum of five concentrations including a zero. The zero point is defined as diluent containing no added analyte.

(12) *Operating procedures.* You must follow the operating procedures specified in paragraphs (a)(12)(i) through (v) of this appendix.

(i) You must perform a qualitative mass calibration by running a standard (or by flowing chamber gases under non-process conditions) containing stable components such as Ar, Kr, and Xe that provide predominant signals at m/e values distributed throughout the mass range to be used. You must adjust the quadrupole mass filter as needed to align with the inert gas fragments.

(ii) You must quantitatively calibrate the quadrupole mass spectrometer for each analyte of interest. The analyte concentrations during calibration must include the expected concentrations in the process effluent. The calibration must be performed under the same operating conditions, such as inlet pressure, as when sampling process exhaust. If the calibration inlet pressure differs from the sampling inlet pressure then the relationship between inlet pressure and quadrupole mass spectrometer signal response must be empirically determined and applied to correct for any differences between calibration and process emissions monitoring data.

(iii) To determine the response time of the instrument to changes in a process, a process gas such as C_2F_6 must be turned on at the process tool for a fixed period of time (for example, 20 seconds), after which the gas is shut off. The sample flow rate through the system must be adjusted so that the signal increases to a constant concentration within a few seconds and decreases to background levels also within a few seconds.

(iv) You must sample the process effluent through the quadrupole mass spectrometer and acquire data for the required amount of time to track the process, as determined in paragraph (a)(12)(iii) of this appendix. You

must set the sample frequency to monitor the changes in the process as specified in paragraph (a)(6) of this appendix. You must repeat this for at least five substrates on the same process and calculate the average and standard deviation of the analyte concentration.

(v) You must repeat the quantitative calibration at the conclusion of sampling to identify any drifts in quadrupole mass spectrometer sensitivity. If drift is observed, you must use an internal standard to correct for changes in sensitivity.

(13) *Sample analysis.* To determine the concentration of a specific component in the sample, you must divide the ion intensity of the sample response by the calibrated response factor for each component.

(14) *Deconvolution of interfering peaks.* The effects of interfering peaks must be deconvoluted from the mass spectra for each target analyte.

(15) *Calculations.* Plot ion intensity versus analyte concentration for a given compound obtained when calibrating the analytical system. Determine the slope and intercept for each calibrated species to obtain response factors with which to calculate concentrations in the sample. For an acceptable calibration, the R^2 value of the calibration curve must be at least 0.98.

(b) In place of the Fourier Transform Infrared Spectroscopy protocol requirements specified in section 2.2.4 of EPA 430–R–10–003 (incorporated by reference, see §98.7), you may conduct Fourier Transform Infrared Spectroscopy testing in accordance with the provisions in paragraph (b)(1) through (17) of this appendix, including the laboratory study phase described in paragraphs (b)(1) through (7), and the field study phase described in paragraphs (b)(8) through (17) of this appendix.

(1) *Conformance with provisions associated with the Calibration Transfer Standard.* This procedure calls for the use of a calibration transfer standard in a number of instances. The use of a calibration transfer standard is necessary to validate optical pathlength and detector response for spectrometers where cell temperature, cell pressure, and cell optical pathlength are potentially variable. For fixed pathlength spectrometers capable of controlling cell temperature and pressure to within ± 10 percent of a desired set point, the use of a calibration transfer standard, as described in paragraphs (b)(2) to (17) this appendix is not required.

(2) *Defining spectroscopic conditions.* Define a set of spectroscopic conditions under which the field studies and subsequent field applications are to be carried out. These include the minimum instrumental line-width, spectrometer wave number range, sample gas temperature, sample gas pressure, absorption pathlength, maximum sampling system volume (including the absorption cell), minimum sample flow rate, and maximum allowable time between consecutive infrared analyses of the effluent.

(3) *Criteria for reference spectral libraries.* On the basis of previous emissions test results and/or process knowledge (including the documentation of results of any initial and subsequent tests, and the final reports required in §98.97(d)(4)(i)), estimate the maximum concentrations of all of the analytes in the effluent and their minimum concentrations of interest (those concentrations below which the measurement of the compounds is of no importance to the analysis). Values between the maximum expected concentration and the minimum concentration of interest are referred to below as the ''expected concentration range.'' A minimum of three reference spectra is sufficient for a small expected concentration range (e.g., a difference of 30 percent of the range between the low and high ends of the range), but a minimum of four spectra are needed where the range is greater, especially for concentration ranges that may differ by orders of magnitude. If the measurement method is not linear then multiple linear ranges may be necessary. If this approach is adopted, then linear range must be demonstrated to pass the required quality control. When the set of spectra is ordered according to absorbance, the absorbance levels of adjacent reference spectra should not differ by more than a factor of six. Reference spectra for each analyte should be available at absorbance levels that bracket the analyte's expected concentration range; minimally, the spectrum whose absorbance exceeds each analyte's expected maximum concentration or is within 30 percent of it must be available. The reference spectra must be collected at or near the same temperature and pressure at which the sample is to be analyzed under. The gas sample pressure and temperature must be continuously monitored during field testing and you must correct for differences in temperature and pressure between the sample and reference spectra. Differences between the sample and reference spectra conditions must not exceed 50 percent for pressure and 40 °C for temperature.

(4) *Spectra without reference libraries.* If reference spectral libraries meeting the criteria in paragraph (b)(3) of this appendix do not exist for all the analytes and interferants or cannot be accurately generated from existing libraries exhibiting lower minimum instrumental line-width values than those proposed for the testing, prepare the required spectra according to the procedures specified in paragraphs (b)(4)(i) and (ii) of this appendix.

(i) Reference spectra at the same absorbance level (to within 10 percent) of independently prepared samples must be recorded. The reference samples must be prepared from neat forms of the analyte or from gas

standards of the highest quality commonly available from commercial sources. Either barometric or volumetric methods may be used to dilute the reference samples to the required concentrations, and the equipment used must be independently calibrated to ensure suitable accuracy. Dynamic and static reference sample preparation methods are acceptable, but dynamic preparations must be used for reactive analytes. Any well characterized absorption pathlength may be employed in recording reference spectra, but the temperature and pressure of the reference samples should match as closely as possible those of the proposed spectroscopic conditions.

(ii) If a mercury cadmium telluride or other potentially non-linear detector (i.e., a detector whose response vs. total infrared power is not a linear function over the range of responses employed) is used for recording the reference spectra, you must correct for the effects of this type of response on the resulting concentration values. As needed, spectra of a calibration transfer standard must be recorded with the laboratory spectrometer system to verify the absorption pathlength and other aspects of the system performance. All reference spectral data must be recorded in interferometric form and stored digitally.

(5) *Sampling system preparation*. Construct a sampling system suitable for delivering the proposed sample flow rate from the effluent source to the infrared absorption cell. For the compounds of interest, the surfaces of the system exposed to the effluent stream may need to be stainless steel or Teflon; because of the potential for generation of inorganic automated gases, glass surfaces within the sampling system and absorption cell may need to be Teflon-coated. The sampling system should be able to deliver a volume of sample that results in a necessary response time.

(6) *Preliminary analytical routines*. For the proposed absorption pathlength to be used in actual emissions testing, you must prepare an analysis method containing of all the effluent compounds at their expected maximum concentrations plus the field calibration transfer standard compound at 20 percent of its full concentration as needed.

(7) *Documentation*. The laboratory techniques used to generate reference spectra and to convert sample spectral information to compound concentrations must be documented. The required level of detail for the documentation is that which allows an independent analyst to reproduce the results from the documentation and the stored interferometric data.

(8) *Spectroscopic system performance*. The performance of the proposed spectroscopic system, sampling system, and analytical method must be rigorously examined during and after a field study. Several iterations of the analysis method may need to be applied depending on observed concentrations, absorbance intensities, and interferences. During the field study, all the sampling and analytical procedures envisioned for future field applications must be documented. Additional procedures not required during routine field applications, notably dynamic spiking studies of the analyte gases, may be performed during the field study. These additional procedures need to be performed only once if the results are acceptable and if the effluent sources in future field applications prove suitably similar to those chosen for the field study. If changes in the effluent sources in future applications are noted and require substantial changes to the analytical equipment and/or conditions, a separate field study must be performed for the new set of effluent source conditions. All data recorded during the study must be retained and documented, and all spectral information must be permanently stored in interferometric form.

(9) *System installation*. The spectroscopic and sampling sub-systems must be assembled and installed according to the manufacturers' recommendations. For the field study, the length of the sample lines used must not be less than the maximum length envisioned for future field applications. The system must be given sufficient time to stabilize before testing begins.

(10) *Pre-Test calibration*. Record a suitable background spectrum using pure nitrogen gas; alternatively, if the analytes of interest are in a sample matrix consistent with ambient air, it is beneficial to use an ambient air background to control interferences from water and carbon dioxide. For variable pathlength Fourier Transform Infrared Spectrometers, introduce a sample of the calibration transfer standard gas directly into the absorption cell at the expected sample pressure and record its absorbance spectrum (the ''initial field calibration transfer standard spectrum''). Compare it to the laboratory calibration transfer standard spectra to determine the effective absorption pathlength. If possible, record spectra of field calibration gas standards (single component standards of the analyte compounds) and determine their concentrations using the reference spectra and analytical routines developed in paragraphs (b)(2) through (7) of this appendix; these spectra may be used instead of the reference spectra in actual concentration and uncertainty calculations.

(11) *Deriving the calibration transfer standard gas from tool chamber gases*. The calibration transfer standard gas may be derived by flowing appropriate semiconductor tool chamber gases under non-process conditions (no thermal or plasma conditions and with no wafer(s) present) if compressed gas standards cannot be brought on-site.

(12) *Reactivity and response time checks.* While sampling ambient air and continuously recording absorbance spectra, suddenly replace the ambient air flow with calibration transfer standard gas introduced as close as possible to the probe tip. Examine the subsequent spectra to determine whether the flow rate and sample volume allow the system to respond quickly enough to changes in the sampled gas. Should a corrosive or reactive gas be of interest in the sample matrix it would be beneficial to determine the reactivity in a similar fashion, if practical. Examine the subsequent spectra to ensure that the reactivities of the analytes with the exposed surfaces of the sampling system do not limit the time response of the analytical system. If a pressure correction routine is not automated, monitor the absorption cell temperature and pressure; verify that the (absolute) pressure remains within 2 percent of the pressure specified in the proposed system conditions.

(13) *Analyte spiking.* Analyte spiking must be performed. While sampling actual source effluent, introduce a known flow rate of calibration transfer standard gas into the sample stream as close as possible to the probe tip or between the probe and extraction line. Measure and monitor the total sample flow rate, and adjust the spike flow rate until it represents 10 percent to 20 percent of the total flow rate. After waiting until at least four absorption cell volumes have been sampled, record four spectra of the spiked effluent, terminate the calibration transfer standard spike flow, pause until at least four cell volumes are sampled, and then record four (unspiked) spectra. Repeat this process until 12 spiked and 12 unspiked spectra have been obtained. If a pressure correction routine is not automated, monitor the absorption cell temperature and pressure; verify that the pressure remains within 2 percent of the pressure specified in the proposed system conditions. Calculate the expected calibration transfer standard compound concentrations in the spectra and compare them to the values observed in the spectrum. This procedure is best performed using a spectroscopic tracer to calculate dilution (as opposed to measured flow rates) of the injected calibration transfer standard (or analyte). The spectroscopic tracer should be a component not in the gas matrix that is easily detectable and maintains a linear absorbance over a large concentration range. Repeat this spiking process with all effluent compounds that are potentially reactive with either the sampling system components or with other effluent compounds. The gas spike is delivered by a mass flow controller, and the expected concentration of analyte of interest (AOITheoretical) is calculated as follows:

$$AOI_{Theoretical} = \left(\frac{Tracer_{sample}}{Tracer_{cylinder}}\right)\left(AOI_{cylinder}\right) + \left[1 - \left(\frac{Tracer_{sample}}{Tracer_{cylinder}}\right)\right]\left(AOI_{native}\right)$$

Where:

AOITheoretical = Theoretical analyte of interest concentration (parts per million (ppm)).

Tracersample = Tracer concentration (ppm) as seen by the Fourier Transform Infrared Spectrometer during spiking.

Tracercylinder = The concentration (ppm) of tracer recorded during direct injection of the cylinder to the Fourier Transform Infrared Spectrometer cell.

AOIcylinder = The supplier-certified concentration (ppm) of the analyte of interest gas standard.

AOInative = The native AOI concentration (ppm) of the effluent during stable conditions.

(14) *Post-test calibration.* At the end of a sampling run and at the end of the field study, record the spectrum of the calibration transfer standard gas. The resulting ''final field calibration transfer standard spectrum'' must be compared to the initial field calibration transfer standard spectrum to verify suitable stability of the spectroscopic system throughout the course of the field study.

(15) *Amendment of analytical routines.* The presence of unanticipated interferant compounds and/or the observation of compounds at concentrations outside their expected concentration ranges may necessitate the repetition of portions of the procedures in paragraphs (b)(2) through (14) of this appendix. Such amendments are allowable before final analysis of the data, but must be represented in the documentation required in paragraph (b)(16) of this appendix.

(16) *Documentation.* The sampling and spiking techniques used to generate the field study spectra and to convert sample spectral information to concentrations must be documented at a level of detail that allows an independent analyst to reproduce the results from the documentation and the stored interferometric data.

(17) *Method application*. When the required laboratory and field studies have been completed and if the results indicate a suitable degree of accuracy, the methods developed may be applied to practical field measurement tasks. During field applications, the procedures demonstrated in the field study specified in paragraphs (b)(8) through (16) of this appendix must be adhered to as closely as possible, with the following exceptions specified in paragraphs (b)(17)(i) through (iii) of this appendix:

(i) The sampling lines employed should be as short as practically possible and not longer than those used in the field study.

(ii) Analyte spiking and reactivity checks are required after the installation of or major repair to the sampling system or major change in sample matrix. In these cases, perform three spiked/unspiked samples with calibration transfer standard or a surrogate analyte on a daily basis if time permits and gas standards are easy to obtain and get on-site.

(iii) Sampling and other operational data must be recorded and documented as during the field study, but only the interferometric data needed to sufficiently reproduce actual test and spiking data must be stored permanently. The format of this data does not need to be interferograms but may be absorbance spectra or single beams.

(c) When using the flow and dilution measurement protocol specified in section 2.2.6 of EPA 430–R–10–003 (incorporated by reference, see §98.7), you may determine point-of-use abatement device total volume flow with the modifications specified in paragraphs (c)(1) through (3) of this appendix.

(1) You may introduce the non-reactive, non-native gas used for determining total volume flow and dilution across the point-of-use abatement device at a location in the exhaust of the point-of-use abatement device. For abatement systems operating in a mode where specific F–GHG are not readily abated, you may introduce the non-reactive, non-native gas used for determining total volume flow and dilution across the point-of-use abatement device prior to the point-of-use abatement system; in this case, the tracer must be more difficult to destroy than the target compounds being measured based on the thermal stability of the tracer and target.

(2) You may select a location for downstream non-reactive, non-native gas analysis that complies with the requirements in this paragraph (c)(2) of this appendix. The sampling location should be traversed with the sampling probe measuring the non-reactive, non-native gas concentrations to ensure homogeneity of the non-reactive gas and point-of-use abatement device effluent (i.e., stratification test). To test for stratification, measure the non-reactive, non-native gas concentrations at three points on a line passing through the centroidal area. Space the three points at 16.7, 50.0, and 83.3 percent of the measurement line. Sample for a minimum of twice the system response time, determined according to paragraph (c)(3) of this appendix, at each traverse point. Calculate the individual point and mean non-reactive, non-native gas concentrations. If the non-reactive, non-native gas concentration at each traverse point differs from the mean concentration for all traverse points by no more than ±5.0 percent of the mean concentration, the gas stream is considered unstratified and you may collect samples from a single point that most closely matches the mean. If the 5.0 percent criterion is not met, but the concentration at each traverse point differs from the mean concentration for all traverse points by no more than ±10.0 percent of the mean, you may take samples from two points and use the average of the two measurements. Space the two points at 16.7, 50.0, or 83.3 percent of the measurement line. If the concentration at each traverse point differs from the mean concentration for all traverse points by more than ±10.0 percent of the mean but less than 20.0 percent, take samples from three points at 16.7, 50.0, and 83.3 percent of the measurement line and use the average of the three measurements. If the gas stream is found to be stratified because the 20.0 percent criterion for a 3-point test is not met, locate and sample the non-reactive, non-native gas from traverse points for the test in accordance with Sections 11.2 and 11.3 of EPA Method 1 in 40 CFR part 60, Appendix A–1. A minimum of 40 non-reactive gas concentration measurements will be collected at three to five different injected non-reactive gas flow rates for determination of point-of-use abatement device effluent flow. The total volume flow of the point-of-use abatement device exhaust will be calculated consistent with the EPA 430–R–10–003 (incorporated by reference, see §98.7) Equations 1 through 7.

(3) You must determine the measurement system response time according to paragraphs (c)(3)(i) through (iii) of this appendix.

(i) Before sampling begins, introduce ambient air at the probe upstream of all sample condition components in system calibration mode. Record the time it takes for the measured concentration of a selected compound (for example, carbon dioxide) to reach steady state.

(ii) Introduce nitrogen in the system calibration mode and record the time required for the concentration of the selected compound to reach steady state.

(iii) Observe the time required to achieve 95 percent of a stable response for both nitrogen and ambient air. The longer interval is the measurement system response time.

[78 FR 68234, Nov. 13, 2013]

Subpart J [Reserved]

Subpart K—Ferroalloy Production

§ 98.110 Definition of the source category.

The ferroalloy production source category consists of any facility that uses pyrometallurgical techniques to produce any of the following metals: ferrochromium, ferromanganese, ferromolybdenum, ferronickel, ferrosilicon, ferrotitanium, ferrotungsten, ferrovanadium, silicomanganese, or silicon metal.

§ 98.111 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a ferroalloy production process and the facility meets the requirements of either § 98.2(a)(1) or (2).

§ 98.112 GHGs to report.

You must report:

(a) Process CO_2 emissions from each electric arc furnace (EAF) used for the production of any ferroalloy listed in § 98.110, and process CH_4 emissions from each EAF that is used for the production of any ferroalloy listed in Table K–1 to subpart K.

(b) CO_2, CH_4, and N_2O emissions from each stationary combustion unit following the requirements of subpart C of this part. You must report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66461, Oct. 28, 2010]

§ 98.113 Calculating GHG emissions.

You must calculate and report the annual process CO_2 emissions from each EAF not subject to paragraph (c) of this section using the procedures in either paragraph (a) or (b) of this section. For each EAF also subject to annual process CH_4 emissions reporting, you must also calculate and report the annual process CH_4 emissions from the EAF using the procedures in paragraph (d) of this section.

(a) Calculate and report under this subpart the process CO_2 emissions by operating and maintaining CEMS according to the Tier 4 Calculation Methodology in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) Calculate and report under this subpart the annual process CO_2 emissions using the procedure in either paragraph (b)(1) or (b)(2) of this section.

(1) Calculate and report under this subpart the annual process CO_2 emissions from EAFs by operating and maintaining a CEMS according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and the applicable requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(2) Calculate and report under this subpart the annual process CO_2 emissions from the EAFs using the carbon mass balance procedure specified in paragraphs (b)(2)(i) and (b)(2)(ii) of this section.

(i) For each EAF, determine the annual mass of carbon in each carbon-containing input and output material for the EAF and estimate annual process CO_2 emissions from the EAF using Equation K–1 of this section. Carbon-containing input materials include carbon electrodes and carbonaceous reducing agents. If you document that a specific input or output material contributes less than 1 percent of the total carbon into or out of the process, you do not have to include the material in your calculation using Equation K–1 of this section.

$$E_{CO2} = \frac{44}{12} \times \frac{2000}{2205} \times \sum_{1}^{i} \left(M_{reducing\ agent_i} \times C_{reducing\ agent_i} \right)$$
$$+ \frac{44}{12} \times \frac{2000}{2205} \times \sum_{1}^{m} \left(M_{electrode_m} \times C_{electrode_m} \right)$$
$$+ \frac{44}{12} \times \frac{2000}{2205} \times \sum_{1}^{h} \left(M_{ore_h} \times C_{ore_h} \right) \qquad \text{(Eq. K-1)}$$
$$+ \frac{44}{12} \times \frac{2000}{2205} \times \sum_{1}^{j} \left(M_{flux_j} \times C_{flux_j} \right)$$
$$- \frac{44}{12} \times \frac{2000}{2205} \times \sum_{1}^{k} \left(M_{product\ outgoing_k} \times C_{product\ outgoing_k} \right)$$
$$- \frac{44}{12} \times \frac{2000}{2205} \times \sum_{1}^{l} \left(M_{non\text{-}product\ outgoing_l} \times C_{non\text{-}product\ outgoing_l} \right)$$

Where:

E_{CO2} = Annual process CO_2 emissions from an individual EAF (metric tons).

44/12 = Ratio of molecular weights, CO_2 to carbon.

2000/2205 = Conversion factor to convert tons to metric tons.

$M_{reducing\ agent_i}$ = Annual mass of reducing agent *i* fed, charged, or otherwise introduced into the EAF (tons).

$C_{reducing\ agent_i}$ = Carbon content in reducing agent *i* (percent by weight, expressed as a decimal fraction).

$M_{electrode_m}$ = Annual mass of carbon electrode *m* consumed in the EAF (tons).

$C_{electrode_m}$ = Carbon content of the carbon electrode *m* (percent by weight, expressed as a decimal fraction).

M_{ore_h} = Annual mass of ore *h* charged to the EAF (tons).

C_{ore_h} = Carbon content in ore *h* (percent by weight, expressed as a decimal fraction).

M_{flux_j} = Annual mass of flux material *j* fed, charged, or otherwise introduced into the EAF to facilitate slag formation (tons).

C_{flux_j} = Carbon content in flux material *j* (percent by weight, expressed as a decimal fraction).

$M_{product_k}$ = Annual mass of alloy product *k* tapped from EAF (tons).

$C_{product_k}$ = Carbon content in alloy product *k*. (percent by weight, expressed as a decimal fraction).

$M_{non\text{-}product\ outgoing_l}$ = Annual mass of non-product outgoing material *l* removed from EAF (tons).

$C_{non\text{-}product\ outgoing_l}$ = Carbon content in non-product outgoing material *l* (percent by weight, expressed as a decimal fraction).

(ii) Determine the combined annual process CO_2 emissions from the EAFs at your facility using Equation K–2 of this section.

$$CO_2 = \sum_{1}^{k} E_{CO2_k} \qquad \text{(Eq. K-2)}$$

Where:

CO_2 = Annual process CO_2 emissions from EAFs at facility used for the production of any ferroalloy listed in § 98.110 (metric tons).

E_{CO2_k} = Annual process CO_2 emissions calculated from EAF *k* calculated using Equation K–1 of this section (metric tons).

k = Total number of EAFs at facility used for the production of any ferroalloy listed in § 98.110.

(c) If GHG emissions from an EAF are vented through the same stack as any combustion unit or process equipment that reports CO_2 emissions using a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Fuel Combustion Sources), then the calculation methodology in paragraph (b) of

this section shall not be used to calculate process emissions. The owner or operator shall report under this subpart the combined stack emissions according to the Tier 4 Calculation Methodology in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part.

(d) For the EAFs at your facility used for the production of any ferroalloy listed in Table K–1 of this subpart, you must calculate and report the annual CH_4 emissions using the procedure specified in paragraphs (d)(1) and (2) of this section.

(1) For each EAF, determine the annual CH_4 emissions using Equation K–3 of this section.

$$E_{CH_4} = \sum_{1}^{i} (M_{product_i} \times \frac{2}{2205} \times EF_{product_i}) \qquad \text{(Eq. K-3)}$$

Where:

E_{CH4} = Annual process CH_4 emissions from an individual EAF (metric tons).

$M_{product_i}$ = Annual mass of alloy product *i* produced in the EAF (tons).

2/2205 = Conversion factor to convert kg CH_4/ton of product to metric tons CH_4.

$EF_{product_i}$ = CH_4 emission factor for alloy product *i* from Table K–1 in this subpart (kg of CH_4 emissions per metric ton of alloy product *i*).

(2) Determine the combined process CH_4 emissions from the EAFs at your facility using Equation K–4 of this section:

$$CH_4 = \sum_{1}^{j} E_{CH4_j} \qquad \text{(Eq. K-4)}$$

Where:

CH_4 = Annual process CH_4 emissions from EAFs at facility used for the production of ferroalloys listed in Table K–1 of this subpart (metric tons).

E_{CH4_j} = Annual process CH_4 emissions from EAF *j* calculated using Equation K–3 of this section (metric tons).

j = Total number of EAFs at facility used for the production of ferroalloys listed in Table K–1 of this subpart.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66461, Oct. 28, 2010; 78 FR 71954, Nov. 29, 2013]

§98.114 Monitoring and QA/QC requirements.

If you determine annual process CO_2 emissions using the carbon mass balance procedure in §98.113(b)(2), you must meet the requirements specified in paragraphs (a) and (b) of this section.

(a) Determine the annual mass for each material used for the calculations of annual process CO_2 emissions using Equation K–1 of this subpart by summing the monthly mass for the material determined for each month of the calendar year. The monthly mass may be determined using plant instruments used for accounting purposes, including either direct measurement of the quantity of the material placed in the unit or by calculations using process operating information.

(b) For each material identified in paragraph (a) of this section, you must determine the average carbon content of the material consumed, used, or produced in the calendar year using the methods specified in either paragraph (b)(1) or (b)(2) of this section. If you document that a specific process input or output contributes less than one percent of the total mass of carbon into or out of the process, you do not have to determine the monthly mass or annual carbon content of that input or output.

(1) Information provided by your material supplier.

(2) Collecting and analyzing at least three representative samples of the material inputs and outputs each year. The carbon content of the material must be analyzed at least annually using the standard methods (and their QA/QC procedures) specified in paragraphs (b)(2)(i) through (b)(2)(iii) of this section, as applicable.

(i) ASTM E1941–04, Standard Test Method for Determination of Carbon in Refractory and Reactive Metals and

Their Alloys (incorporated by reference, *see* § 98.7) for analysis of metal ore and alloy product.

(ii) ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, *see* § 98.7), for analysis of carbonaceous reducing agents and carbon electrodes.

(iii) ASTM C25–06, Standard Test Methods for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime (incorporated by reference, *see* § 98.7) for analysis of flux materials such as limestone or dolomite.

§ 98.115 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations in § 98.113 is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in the paragraphs (a) and (b) of this section. You must document and keep records of the procedures used for all such estimates.

(a) If you determine CO_2 emissions for the EAFs at your facility using the carbon mass balance procedure in § 98.113(b), 100 percent data availability is required for the carbon content of the input and output materials. You must repeat the test for average carbon contents of inputs according to the procedures in § 98.114(b) if data are missing.

(b) For missing records of the monthly mass of carbon-containing inputs and outputs, the substitute data value must be based on the best available estimate of the mass of the inputs and outputs from on all available process data or data used for accounting purposes, such as purchase records.

(c) If you are required to calculate CH_4 emissions for an EAF at your facility as specified in § 98.113(d), the estimate is based an annual quantity of certain alloy products, so 100 percent data availability is required.

§ 98.116 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) through (e) of this section, as applicable:

(a) Annual facility ferroalloy product production capacity (tons).

(b) If a CEMS is used to measure CO_2 emissions, report the annual production for each ferroalloy product identified in § 98.110, from each EAF (tons).

(c) Total number of EAFs at facility used for production of ferroalloy products.

(d) If a CEMS is used to measure CO_2 emissions, then you must report under this subpart the relevant information required by § 98.36 for the Tier 4 Calculation Methodology and the following information specified in paragraphs (d)(1) through (d)(3) of this section.

(1) Annual process CO_2 emissions (in metric tons) from each EAF used for the production of any ferroalloy product identified in § 98.110.

(2) Annual process CH_4 emissions (in metric tons) from each EAF used for the production of any ferroalloy listed in Table K–1 of this subpart (metric tons).

(3) Identification number of each EAF.

(e) If a CEMS is not used to measure CO_2 process emissions, and the carbon mass balance procedure is used to determine CO_2 emissions according to the requirements in § 98.113(b), then you must report the following information specified in paragraphs (e)(1) through (e)(7) of this section.

(1) Annual process CO_2 emissions (in metric tons) from each EAF used for the production of any ferroalloy identified in § 98.110 (metric tons).

(2) Annual process CH_4 emissions (in metric tons) from each EAF used for the production of any ferroalloy listed in Table K–1 of this subpart.

(3) Identification number for each material.

(4)–(5) [Reserved]

(6) List the method used for the determination of carbon content for each material included for the calculation of annual process CO_2 emissions for each EAF (*e.g.*, supplier provided information, analyses of representative samples you collected).

(7) If you use the missing data procedures in § 98.115(b), you must report

how monthly mass of carbon-containing inputs and outputs with missing data was determined and the number of months the missing data procedures were used.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66462, Oct. 28, 2010; 78 FR 71954, Nov. 29, 2013; 79 FR 63785, Oct. 24, 2014]

§ 98.117 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) through (e) of this section for each EAF, as applicable.

(a) If a CEMS is used to measure CO_2 emissions according to the requirements in § 98.113(a), then you must retain under this subpart the records required for the Tier 4 Calculation Methodology in § 98.37 and the information specified in paragraphs (a)(1) through (a)(3) of this section.

(1) Monthly EAF production quantity for each ferroalloy product (tons).

(2) Number of EAF operating hours each month.

(3) Number of EAF operating hours in a calendar year.

(b) If the carbon mass balance procedure is used to determine CO_2 emissions according to the requirements in § 98.113(b)(2), then you must retain records for the information specified in paragraphs (b)(1) through (b)(5) of this section.

(1) Monthly EAF production quantity for each ferroalloy product (tons).

(2) Number of EAF operating hours each month.

(3) Number of EAF operating hours in a calendar year.

(4) Monthly material quantity consumed, used, or produced for each material included for the calculations of annual process CO_2 emissions (tons).

(5) Average carbon content determined and records of the supplier provided information or analyses used for the determination for each material included for the calculations of annual process CO_2 emissions.

(c) You must keep records that include a detailed explanation of how company records of measurements are used to estimate the carbon input and output to each EAF, including documentation of specific input or output materials excluded from Equation K–1 of this subpart that contribute less than 1 percent of the total carbon into or out of the process. You also must document the procedures used to ensure the accuracy of the measurements of materials fed, charged, or placed in an EAF including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

(d) If you are required to calculate CH_4 emissions for the EAF as specified in § 98.113(d), you must maintain records of the total amount of each alloy product produced for the specified reporting period, and the appropriate alloy-product specific emission factor used to calculate the CH_4 emissions.

(e) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (e)(1) through (13) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (e)(1) through (13) of this section.

(1) Carbon content in reducing agent (percent by weight, expressed as a decimal fraction) (Equation K–1 of § 98.113).

(2) Annual mass of reducing agent fed, charged, or otherwise introduced into the EAF (tons) (Equation K–1).

(3) Carbon content of carbon electrode (percent by weight, expressed as a decimal fraction) (Equation K–1).

(4) Annual mass of carbon electrode consumed in the EAF (tons) (Equation K–1).

(5) Carbon content in ore (percent by weight, expressed as a decimal fraction) (Equation K–1).

(6) Annual mass of ore charged to the EAF (tons) (Equation K–1).

(7) Carbon content in flux material (percent by weight, expressed as a decimal fraction) (Equation K–1).

(8) Annual mass of flux material fed, charged, or otherwise introduced into the EAF to facilitate slag formation (tons) (Equation K–1).

(9) Carbon content in alloy product (percent by weight, expressed as a decimal fraction) (Equation K–1).

(10) Annual mass of alloy product produced/tapped in the EAF (tons) (Equation K–1).

(11) Carbon content in non-product outgoing material (percent by weight, expressed as a decimal fraction) (Equation K–1).

(12) Annual mass of non-product outgoing material removed from EAF (tons) (Equation K–1).

(13) CH_4 emission factor selected from Table K–1 of this subpart for each product (kg of CH_4 emissions/metric ton of alloy product) (Equation K–3 of § 98.113).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63785, Oct. 24, 2014]

§ 98.118 Definitions.

All terms used of this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE K–1 TO SUBPART K OF PART 98—ELECTRIC ARC FURNACE (EAF) CH_4 EMISSION FACTORS

Alloy product produced in EAF	CH_4 emission factor (kg CH_4 per metric ton product)		
	EAF Operation		
	Batch-charging	Sprinkle-charging [a]	Sprinkle-charging and >750 °C [b]
Silicon metal	1.5	1.2	0.7
Ferrosilicon 90%	1.4	1.1	0.6
Ferrosilicon 75%	1.3	1.0	0.5
Ferrosilicon 65%	1.3	1.0	0.5

[a] Sprinkle-charging is charging intermittently every minute.
[b] Temperature measured in off-gas channel downstream of the furnace hood.

Subpart L—Fluorinated Gas Production

SOURCE: 75 FR 74831, Dec. 1, 2010, unless otherwise noted.

§ 98.120 Definition of the source category.

(a) The fluorinated gas production source category consists of processes that produce a fluorinated gas from any raw material or feedstock chemical, except for processes that generate HFC–23 during the production of HCFC–22.

(b) To produce a fluorinated gas means to manufacture a fluorinated gas from any raw material or feedstock chemical. Producing a fluorinated gas includes producing a fluorinated GHG as defined at § 98.410(b). Producing a fluorinated gas also includes the manufacture of a chlorofluorocarbon (CFC) or hydrochlorofluorocarbon (HCFC) from any raw material or feedstock chemical, including manufacture of a CFC or HCFC as an isolated intermediate for use in a process that will result in the transformation of the CFC or HCFC either at or outside of the production facility. Producing a fluorinated gas does not include the reuse or recycling of a fluorinated gas, the creation of HFC–23 during the production of HCFC–22, the creation of intermediates that are created and transformed in a single process with no storage of the intermediates, or the creation of fluorinated GHGs that are released or destroyed at the production facility before the production measurement in § 98.414(a).

§ 98.121 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a fluorinated gas production process that generates or emits fluorinated GHG and the facility meets the requirements of either § 98.2(a)(1) or (a)(2). To calculate GHG emissions for comparison to the 25,000 metric ton CO_2e per year emission threshold in § 98.2(a)(2), calculate process emissions from fluorinated gas production using uncontrolled GHG emissions.

§ 98.122 GHGs to report.

(a) You must report CO_2, CH_4, and N_2O combustion emissions from each stationary combustion unit. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

(b) You must report under subpart O of this part (HCFC–22 Production and HFC–23 Destruction) the emissions of HFC–23 from HCFC–22 production processes and HFC–23 destruction processes. Do not report the generation and emissions of HFC–23 from HCFC–22 production under this subpart.

(c) *Emissions from production and transformation processes, process level.* You must report, for each fluorinated GHG group, the total GWP-weighted mass of all fluorinated GHGs in that group (in metric tons CO_2e) emitted from:

(1) Each fluorinated gas production process.

(2) Each fluorinated gas transformation process that is not part of a fluorinated gas production process and where no fluorinated GHG reactant is produced at another facility.

(3) Each fluorinated gas transformation process that is not part of a fluorinated gas production process and where one or more fluorinated GHG reactants are produced at another facility.

(d) *Emissions from production and transformation processes, facility level, multiple products.* If your facility produces more than one fluorinated gas product, you must report the emissions (in metric tons) from production and transformation processes, totaled across the facility as a whole, of each fluorinated GHG that is emitted in quantities of 1,000 metric tons of CO_2e or more from production or transformation processes, totaled across the facility as a whole. Aggregate and report emissions of all other fluorinated GHGs from production and transformation processes by fluorinated GHG group for the facility as a whole, in metric tons of CO_2e.

(e) *Emissions from production and transformation processes, facility level, one product only.* If your facility produces only one fluorinated gas product, aggregate and report the GWP-weighted emissions from production and transformation processes of fluorinated GHGs by fluorinated GHG group for the facility as a whole, in metric tons CO_2e, with the following exception: Where emissions consist of a major fluorinated GHG constituent of a fluorinated gas product, and the product is sold or transferred to another person, report the total mass of each fluorinated GHG that is emitted from production and transformation processes and that is a major fluorinated GHG constituent of the product (in metric tons).

(f) *Emissions from destruction processes and venting of containers.* You must report the total mass of each fluorinated GHG emitted (in metric tons) from:

(1) Each fluorinated gas destruction process that is not part of a fluorinated gas production process or a fluorinated gas transformation process and all such fluorinated gas destruction processes combined.

(2) Venting of residual fluorinated GHGs from containers returned from the field.

[75 FR 74831, Dec. 1, 2010, as amended at 79 FR 73785, Dec. 11, 2014

§ 98.123 Calculating GHG emissions.

For fluorinated gas production and transformation processes, you must calculate the fluorinated GHG emissions from each process using the emission factor or emission calculation factor method specified in paragraphs (c), (d), and (e) of this section, as appropriate. For destruction processes that destroy fluorinated GHGs that were previously ''produced'' as defined at § 98.410(b), you must calculate emissions using the procedures in paragraph (f) of this section. For venting of residual gas from containers (*e.g.*, cylinder heels), you must calculate emissions using the procedures in paragraph (g) of this section.

(a) [Reserved]

(b) *Mass balance method.* The mass balance method was available for reporting years 2011, 2012, 2013, and 2014 only. See paragraph 1 of appendix A of this subpart for the former mass balance method.

(c) *Emission factor and emission calculation factor methods.* To use the

method in this paragraph for batch processes, you must comply with either paragraph (c)(3) of this section (Emission Factor approach) or paragraph (c)(4) of this section (Emission Calculation Factor approach). To use the method in this paragraph for continuous processes, you must first make a preliminary estimate of the emissions from each individual continuous process vent under paragraph (c)(1) of this section. If your continuous process operates under different conditions as part of normal operations, you must also define the different operating scenarios and make a preliminary estimate of the emissions from the vent for each operating scenario. Then, compare the preliminary estimate for each continuous process vent (summed across operating scenarios) to the criteria in paragraph (c)(2) of this section to determine whether the process vent meets the criteria for using the emission factor method described in paragraph (c)(3) of this section or whether the process vent meets the criteria for using the emission calculation factor method described in paragraph (c)(4) of this section. For continuous process vents that meet the criteria for using the emission factor method described in paragraph (c)(3) of this section and that have more than one operating scenario, compare the preliminary estimate for each operating scenario to the criteria in (c)(3)(ii) to determine whether an emission factor must be developed for that operating scenario.

(1) *Preliminary estimate of emissions by process vent.* You must estimate the annual CO_2e emissions of fluorinated GHGs for each process vent within each operating scenario of a continuous process using the approaches specified in paragraph (c)(1)(i) or (c)(1)(ii) of this section, accounting for any destruction as specified in paragraph (c)(1)(iii) of this section. You must determine emissions of fluorinated GHGs by process vent by using measurements, by using calculations based on chemical engineering principles and chemical property data, or by conducting an engineering assessment. You may use previous measurements, calculations, and assessments if they represent current process operating conditions or process operating conditions that would result in higher fluorinated GHG emissions than the current operating conditions and if they were performed in accordance with paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section, as applicable. You must document all data, assumptions, and procedures used in the calculations or engineering assessment and keep a record of the emissions determination as required by § 98.127(a).

(i) *Engineering calculations.* For process vent emission calculations, you may use any of paragraphs (c)(1)(i)(A), (c)(1)(i)(B), or (c)(1)(i)(C) of this section.

(A) U.S. Environmental Protection Agency, Emission Inventory Improvement Program, Volume II: Chapter 16, Methods for Estimating Air Emissions from Chemical Manufacturing Facilities, August 2007, Final (incorporated by reference, see § 98.7).

(B) You may determine the fluorinated GHG emissions from any process vent within the process using the procedures specified in § 63.1257(d)(2)(i) and (d)(3)(i)(B) of this chapter, except as specified in paragraphs (c)(1)(i)(B)(*1*) through (c)(1)(i)(B)(*4*) of this section. For the purposes of this subpart, use of the term ''HAP'' in § 63.1257(d)(2)(i) and (d)(3)(i)(B) of this chapter means ''fluorinated GHG''.

(*1*) To calculate emissions caused by the heating of a vessel without a process condenser to a temperature lower than the boiling point, you must use the procedures in § 63.1257(d)(2)(i)(C)(*3*) of this chapter.

(*2*) To calculate emissions from depressurization of a vessel without a process condenser, you must use the procedures in § 63.1257(d)(2)(i)(D)(*10*) of this chapter.

(*3*) To calculate emissions from vacuum systems, the terms used in Equation 33 to § 63.1257(d)(2)(i)(E) of this chapter are defined as follows:

(*i*) P_{system} = Absolute pressure of the receiving vessel.

(*ii*) P_i= Partial pressure of the fluorinated GHG determined at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver.

(*iii*) P_j= Partial pressure of condensables (including fluorinated

GHG) determined at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver.

(*iv*) $MW_{Fluorinated\ GHG}$= Molecular weight of the fluorinated GHG determined at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver.

(*4*) To calculate emissions when a vessel is equipped with a process condenser or a control condenser, you must use the procedures in § 63.1257(d)(3)(i)(B) of this chapter, except as follows:

(*i*) You must determine the flowrate of gas (or volume of gas), partial pressures of condensables, temperature (T), and fluorinated GHG molecular weight ($MW_{Fluorinated\ GHG}$) at the exit temperature and exit pressure conditions of the condenser or at the conditions of the dedicated receiver.

(*ii*) You must assume that all of the components contained in the condenser exit vent stream are in equilibrium with the same components in the exit condensate stream (except for noncondensables).

(*iii*) You must perform a material balance for each component, if the condensate receiver composition is not known.

(*iv*) For the emissions from gas evolution, the term for time, t, must be used in Equation 12 to § 63.1257(d)(2)(i)(B) of this chapter.

(*v*) Emissions from empty vessel purging must be calculated using Equation 36 to § 63.1257(d)(2)(i)(H) of this chapter and the exit temperature and exit pressure conditions of the condenser or the conditions of the dedicated receiver.

(C) Commercial software products that follow chemical engineering principles (e.g., including the calculation methodologies in paragraphs (c)(1)(i)(A) and (c)(1)(i)(B) of this section).

(ii) *Engineering assessments*. For process vent emissions determinations, you may conduct an engineering assessment to calculate uncontrolled emissions. An engineering assessment includes, but is not limited to, the following:

(A) Previous test results, provided the tests are representative of current operating practices of the process.

(B) Bench-scale or pilot-scale test data representative of the process operating conditions.

(C) Maximum flow rate, fluorinated GHG emission rate, concentration, or other relevant parameters specified or implied within a permit limit applicable to the process vent.

(D) Design analysis based on chemical engineering principles, measureable process parameters, or physical or chemical laws or properties.

(iii) *Impact of destruction for the preliminary estimate*. If the process vent is vented to a destruction device, you may reflect the impact of the destruction device on emissions. In your emissions estimate, account for the following:

(A) The destruction efficiencies of the device that have been demonstrated for the fluorinated GHGs in the vent stream for periods when the process vent is vented to the destruction device.

(B) Any periods when the process vent is not vented to the destruction device.

(iv) *Use of typical recent values*. In the calculations in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section, the values used for the expected process activity and for the expected fraction of that activity whose emissions will be vented to the properly functioning destruction device must be based on either typical recent values for the process or values that would overestimate emissions from the process, unless there is a compelling reason to adopt a different value (e.g., installation of a destruction device for a previously uncontrolled process). If there is such a reason, it must be documented in the GHG Monitoring Plan.

(v) *GWPs*. To convert the fluorinated GHG emissions to CO_2e, use Equation A–1 of § 98.2.

(vi) [Reserved]

(2) *Method selection for continuous process vents*.

(i) If the calculations under paragraph (c)(1) of this section, as well as any subsequent measurements and calculations under this subpart, indicate

that the continuous process vent has fluorinated GHG emissions of less than 10,000 metric ton CO_2e per year, summed across all operating scenarios, then you may comply with either paragraph (c)(3) of this section (Emission Factor approach) or paragraph (c)(4) of this section (Emission Calculation Factor approach).

(ii) If the continuous process vent does not meet the criteria in paragraph (c)(2)(i) of this section, then you must comply with the emission factor method specified in paragraph (c)(3) (Emission Factor approach) of this section.

(A) You must conduct emission testing for process-vent-specific emission factor development before the destruction device unless the calculations you performed under paragraph (c)(1)(iii) of this section indicate that the uncontrolled fluorinated GHG emissions that occur during periods when the process vent is not vented to the properly functioning destruction device are less than 10,000 metric tons CO_2e per year. In this case, you may conduct emission testing after the destruction device to develop a process-vent-specific emission factor. If you do so, you must develop and apply an emission calculation factor under paragraph (c)(4) to estimate emissions during any periods when the process vent is not vented to the properly functioning destruction device.

(B) Regardless of the level of uncontrolled emissions, the emission testing for process-vent-specific emission factor development may be conducted on the outlet side of a wet scrubber in place for acid gas reduction, if one is in place, as long as there is no appreciable reduction in the fluorinated GHG.

(3) *Process-vent-specific emission factor method.* For each process vent, conduct an emission test and measure fluorinated GHG emissions from the process and measure the process activity, such as the feed rate, production rate, or other process activity rate, during the test as described in this paragraph (c)(3). Conduct the emission test according to the procedures in § 98.124. All emissions test data and procedures used in developing emission factors must be documented according to § 98.127. If more than one operating scenario applies to the process that contains the subject process vent, you must comply with either paragraph (3)(i) or paragraph (3)(ii) of this section.

(i) Conduct a separate emissions test for operation under each operating scenario.

(ii) Conduct an emissions test for the operating scenario that is expected to have the largest emissions in terms of CO_2e (considering both activity levels and emission calculation factors) on an annual basis. Also conduct an emissions test for each additional operating scenario that is estimated to emit 10,000 metric tons CO_2e or more annually from the vent and whose emission calculation factor differs by 15 percent or more from the emission calculation factor of the operating scenario that is expected to have the largest emissions (or of another operating scenario for which emission testing is performed), unless the difference between the operating scenarios is solely due to the application of a destruction device to emissions under one of the operating scenarios. For any other operating scenarios, adjust the process-vent specific emission factor developed for the operating scenario that is expected to have the largest emissions (or for another operating scenario for which emission testing is performed) using the approach in paragraph (c)(3)(viii) of this section.

(iii) You must measure the process activity, such as the process feed rate, process production rate, or other process activity rate, as applicable, during the emission test and calculate the rate for the test period, in kg (or another appropriate metric) per hour.

(iv) For continuous processes, you must calculate the hourly emission rate of each fluorinated GHG using Equation L–19 of this section and determine the hourly emission rate of each fluorinated GHG per process vent (and per operating scenario, as applicable) for the test run.

$$E_{ContPV} = \frac{C_{PV}}{10^6} * MW * Q_{PV} * \frac{1}{SV} * \frac{1}{10^3} * \frac{60}{1} \qquad \text{(Eq. L-19)}$$

Where:

E_{ContPV} = Mass of fluorinated GHG f emitted from process vent v from process i, operating scenario j, during the emission test during test run r (kg/hr).

C_{PV} = Concentration of fluorinated GHG f during test run r of the emission test (ppmv).

MW = Molecular weight of fluorinated GHG f (g/g-mole).

Q_{PV} = Flow rate of the process vent stream during test run r of the emission test (m^3/min).

SV = Standard molar volume of gas (0.0240 m^3/g-mole at 68 °F and 1 atm).

$1/10^3$ = Conversion factor (1 kilogram/1,000 grams).

60/1 = Conversion factor (60 minutes/1 hour).

(v) You must calculate a site-specific, process-vent-specific emission factor for each fluorinated GHG for each process vent and each operating scenario, in kg of fluorinated GHG per process activity rate (e.g., kg of feed or production), as applicable, using Equation L–20 of this section. For continuous processes, divide the hourly fluorinated GHG emission rate during the test by the hourly process activity rate during the test runs.

$$EF_{PV} = \frac{\sum_{1}^{r}\left(\frac{E_{PV}}{Activity_{EmissionTest}}\right)}{r} \qquad \text{(Eq. L-20)}$$

Where:

EF_{PV} = Emission factor for fluorinated GHG f emitted from process vent v during process i, operating scenario j (e.g., kg emitted/kg activity).

E_{PV} = Mass of fluorinated GHG f emitted from process vent v from process i, operating scenario j, during the emission test during test run r, for either continuous or batch (kg emitted/hr for continuous, kg emitted/batch for batch).

$Activity_{EmissionTest}$ = Process feed, process production, or other process activity rate for process i, operating scenario j, during the emission test during test run r (e.g., kg product/hr).

r = Number of test runs performed during the emission test.

(vi) If you conducted emissions testing after the destruction device, you must calculate the emissions of each fluorinated GHG for the process vent (and operating scenario, as applicable) using Equation L–21 of this section. You must also develop a process-vent-specific emission calculation factor based on paragraph (c)(4) of this section for the periods when the process vent is not venting to the destruction device.

$$E_{PV} = EF_{PV-C} * Activity_C + ECF_{PV-U} * Activity_U \qquad \text{(Eq. L-21)}$$

Where:

E_{PV} = Mass of fluorinated GHG f emitted from process vent v from process i, operating scenario j, for the year (kg).

EF_{PV-C} = Emission factor for fluorinated GHG f emitted from process vent v during process i, operating scenario j, based on testing after the destruction device (kg emitted/activity) (e.g., kg emitted/kg product).

$Activity_C$ = Total process feed, process production, or other process activity for process i, operating scenario j, during the year for which emissions are vented to the properly functioning destruction device (i.e., controlled).

ECF_{PV-U} = Emission calculation factor for fluorinated GHG f emitted from process vent v during process i, operating scenario j during periods when the process vent is not vented to the properly functioning destruction device (kg emitted/activity) (e.g., kg emitted/kg product).

$Activity_U$ = Total process feed, process production, or other process activity during the year for which the process vent is not vented to the properly functioning destruction device (e.g., kg product).

(vii) If you conducted emissions testing before the destruction device, apply the destruction efficiencies of the device that have been demonstrated for the fluorinated GHGs in the vent stream to the fluorinated GHG emissions for the process vent (and operating scenario, as applicable), using Equation L–22 of this section. You may apply the destruction efficiency only to the portion of the process activity during which emissions are vented to the properly functioning destruction device (i.e., controlled).

$$E_{PV} = EF_{PV-U} * \left(Activity_U + Activity_C * (1 - DE)\right) \quad \text{(Eq. L-22)}$$

where:

E_{PV} = Mass of fluorinated GHG f emitted from process vent v from process i, operating scenario j, for the year, considering destruction efficiency (kg).

EF_{PV-U} = Emission factor (uncontrolled) for fluorinated GHG f emitted from process vent v during process i, operating scenario j (kg emitted/kg product).

$Activity_U$ = Total process feed, process production, or other process activity for process i, operating scenario j, during the year for which the process vent is not vented to the properly functioning destruction device (e.g., kg product).

$Activity_C$ = Total process feed, process production, or other process activity for process i, operating scenario j, during the year for which the process vent is vented to the properly functioning destruction device (e.g., kg product).

DE = Demonstrated destruction efficiency of the destruction device (weight fraction).

(viii) *Adjusted process-vent-specific emission factors for other operating scenarios.* For process vents from processes with multiple operating scenarios, use Equation L–23 of this section to develop an adjusted process-vent-specific emission factor for each operating scenario from which the vent is estimated to emit less than 10,000 metric tons CO_2e annually or whose emission calculation factor differs by less than 15 percent from the emission calculation factor of the operating scenario that is expected to have the largest emissions (or of another operating scenario for which emission testing is performed).

$$EF_{PVadj} = \frac{ECF_{UT}}{ECF_T} * EF_{PV} \quad \text{(Eq. L-23)}$$

where:

EF_{PVadj} = Adjusted process-vent-specific emission factor for an untested operating scenario.

ECF_{UT} = Emission calculation factor for the untested operating scenario developed under paragraph (c)(4) of this section.

ECF_T = Emission calculation for the tested operating scenario developed under paragraph (c)(4) of this section.

EF_{PV} = Process vent specific emission factor for the tested operating scenario.

(ix) Sum the emissions of each fluorinated GHG from all process vents in each operating scenario and all operating scenarios in the process for the year to estimate the total process vent emissions of each fluorinated GHG from the process, using Equation L–24 of this section.

$$E_{Pfi} = \sum_{1}^{o} \sum_{1}^{v} E_{PV} \quad \text{(Eq. L-24)}$$

where:

E_{Pfi} = Mass of fluorinated GHG f emitted from process vents for process i for the year (kg).

E_{PV} = Mass of fluorinated GHG f emitted from process vent v from process i, operating scenario j, for the year, considering destruction efficiency (kg).

v = Number of process vents in process i, operating scenario j.

o = Number of operating scenarios for process i.

(4) *Process-vent-specific emission calculation factor method.* For each process vent within an operating scenario, determine fluorinated GHG emissions by calculations and determine the process activity rate, such as the feed rate, production rate, or other process activity rate, associated with the emission rate.

(i) You must calculate uncontrolled emissions of fluorinated GHG by individual process vent, E_{PV}, by using measurements, by using calculations based on chemical engineering principles and chemical property data, or by conducting an engineering assessment. Use the procedures in paragraphs (c)(1)(i) or (ii) of this section, except paragraph (c)(1)(ii)(C) of this section. The procedures in paragraphs (c)(1)(i) and (ii) of this section may be applied either to batch process vents or to continuous process vents. The uncontrolled emissions must be based on a typical batch or production rate under a defined operating scenario. The process activity rate associated with the uncontrolled emissions must be determined. The methods, data, and assumptions used to estimate emissions for each operating scenario must be selected to yield a best estimate (expected value) of emissions rather than an over- or underestimate of emissions for that operating scenario. All data, assumptions, and procedures used in the calculations or engineering assessment must be documented according to §98.127.

(ii) You must calculate a site-specific, process-vent-specific emission calculation factor for each process vent, each operating scenario, and each fluorinated GHG, in kg of fluorinated GHG per activity rate (e.g., kg of feed or production) as applicable, using Equation L–25 of this section.

$$ECF_{PV} = \frac{E_{PV}}{Activity_{\mathrm{Re}\,presentative}} \quad \text{(Eq. L-25)}$$

where:

ECF_{PV} = Emission calculation factor for fluorinated GHG f emitted from process vent v during process i, operating scenario j, (e.g., kg emitted/kg product).

E_{PV} = Average mass of fluorinated GHG f emitted, based on calculations, from process vent v from process i, operating scenario j, during the period or batch for which emissions were calculated, for either continuous or batch (kg emitted/hr for continuous, kg emitted/batch for batch).

$Activity_{Representative}$ = Process feed, process production, or other process activity rate corresponding to average mass of emissions based on calculations (e.g., kg product/hr for continuous, kg product/batch for batch).

(iii) You must calculate emissions of each fluorinated GHG for the process vent (and operating scenario, as applicable) for the year by multiplying the process-vent-specific emission calculation factor by the total process activity, as applicable, for the year, using Equation L–26 of this section.

$$E_{PV} = ECF_{PV} * Activity \quad \text{(Eq. L-26)}$$

where:

E_{PV} = Mass of fluorinated GHG f emitted from process vent v from process i, operating scenario j, for the year (kg).

ECF_{PV} = Emission calculation factor for fluorinated GHG f emitted from process vent v during process i, operating scenario j, (kg emitted/activity) (e.g., kg emitted/kg product).

Activity = Process feed, process production, or other process activity for process i, operating scenario j, during the year.

(iv) If the process vent is vented to a destruction device, apply the demonstrated destruction efficiency of the device to the fluorinated GHG emissions for the process vent (and operating scenario, as applicable), using Equation L–27 of this section. Apply the destruction efficiency only to the portion of the process activity that is vented to the properly functioning destruction device (i.e., controlled).

$$E_{PV} = ECF_{PV} * \left(Activity_U + Activity_C * (1 - DE)\right) \quad \text{(Eq. L-27)}$$

where:

E_{PV} = Mass of fluorinated GHG f emitted from process vent v from process i, operating scenario j, for the year considering destruction efficiency (kg).

ECF_{PV} = Emission calculation factor for fluorinated GHG f emitted from process vent v during process i, operating scenario j, (e.g., kg emitted/kg product).

$Activity_U$ = Total process feed, process production, or other process activity for process i, operating scenario j, during the year for which the process vent is not vented to the properly functioning destruction device (e.g., kg product).

$Activity_C$ = Total process feed, process production, or other process activity for process i, operating scenario j, during the year for which the process vent is vented to the properly functioning destruction device (e.g., kg product).

DE = Demonstrated destruction efficiency of the destruction device (weight fraction).

(v) Sum the emissions of each fluorinated GHG from all process vents in each operating scenario and all operating scenarios in the process for the year to estimate the total process vent emissions of each fluorinated GHG from the process, using Equation L–28 of this section.

$$E_{Pfi} = \sum_{1}^{o} \sum_{1}^{v} E_{PV} \quad \text{(Eq. L-28)}$$

where:

E_{Pfi} = Mass of fluorinated GHG f emitted from process vents for process i for the year (kg).

E_{PV} = Mass of fluorinated GHG f emitted from process vent v from process i, operating scenario j, for the year, considering destruction efficiency (kg).

v = Number of process vents in process i, operating scenario j.

o = Number of operating scenarios in process i.

(d) *Calculate fluorinated GHG emissions for equipment leaks (EL).* If you comply with paragraph (c) of this section, you must calculate the fluorinated GHG emissions from pieces of equipment associated with processes covered under this subpart and in fluorinated GHG service. If you conduct monitoring of equipment in fluorinated GHG service, monitoring must be conducted for those in light liquid and in gas and vapor service. If you conduct monitoring of equipment in fluorinated GHG service, you may exclude from monitoring each piece of equipment that is difficult-to-monitor, that is unsafe-to-monitor, that is insulated, or that is in heavy liquid service; you may exclude from monitoring each

pump with dual mechanical seals, agitator with dual mechanical seals, pump with no external shaft, agitator with no external shaft; you may exclude from monitoring each pressure relief device in gas and vapor service with upstream rupture disk, each sampling connection system with closed-loop or closed-purge systems, and any pieces of equipment where leaks are routed through a closed vent system to a destruction device. You must estimate emissions using another approach for those pieces of equipment excluded from monitoring. Equipment that is in fluorinated GHG service for less than 300 hr/yr; equipment that is in vacuum service; pressure relief devices that are in light liquid service; and instrumentation systems are exempted from these requirements.

(1) The emissions from equipment leaks must be calculated using any of the procedures in paragraphs (d)(1)(i), (d)(1)(ii), (d)(1)(iii), or (d)(1)(iv) of this section.

(i) *Use of Average Emission Factor Approach in EPA Protocol for Equipment Leak Emission Estimates.* The emissions from equipment leaks may be calculated using the default Average Emission Factor Approach in EPA–453/R–95–017 (incorporated by reference, see § 98.7).

(ii) *Use of Other Approaches in EPA Protocol for Equipment Leak Emission Estimates in conjunction with EPA Method 21 at 40 CFR part 60, appendix A–7.* The emissions from equipment leaks may be calculated using one of the following methods in EPA–453/R–95–017 (incorporated by reference, see § 98.7): The Screening Ranges Approach; the EPA Correlation Approach; or the Unit-Specific Correlation Approach. If you determine that EPA Method 21 at 40 CFR part 60, appendix A–7 is appropriate for monitoring a fluorinated GHG, and if you calibrate your instrument with a compound different from one or more of the fluorinated GHGs or surrogates to be measured, you must develop response factors for each fluorinated GHG or for each surrogate to be measured using EPA Method 21 at 40 CFR part 60, appendix A–7. For each fluorinated GHG or surrogate measured, the response factor must be less than 10. The response factor is the ratio of the known concentration of a fluorinated GHG or surrogate to the observed meter reading when measured using an instrument calibrated with the reference compound.

(iii) *Use of Other Approaches in EPA Protocol for Equipment Leak Emission Estimates in conjunction with site-specific leak monitoring methods.* The emissions from equipment leaks may be calculated using one of the following methods in EPA–453/R–95–017 (incorporated by reference, see § 98.7): The Screening Ranges Approach; the EPA Correlation Approach; or the Unit-Specific Correlation Approach. You may develop a site-specific leak monitoring method appropriate for monitoring fluorinated GHGs or surrogates to use along with these three approaches. The site-specific leak monitoring method must meet the requirements in § 98.124(f)(1).

(iv) *Use of site-specific leak monitoring methods.* The emissions from equipment leaks may be calculated using a site-specific leak monitoring method. The site-specific leak monitoring method must meet the requirements in § 98.124(f)(1).

(2) You must collect information on the number of each type of equipment; the service of each piece of equipment (gas, light liquid, heavy liquid); the concentration of each fluorinated GHG in the stream; and the time period each piece of equipment was in service. Depending on which approach you follow, you may be required to collect information for equipment on the associated screening data concentrations for greater than or equal to 10,000 ppmv and associated screening data concentrations for less than 10,000 ppmv; associated actual screening data concentrations; or associated screening data and leak rate data (i.e., bagging) used to develop a unit-specific correlation.

(3) Calculate and sum the emissions of each fluorinated GHG in metric tons per year for equipment pieces for each process, E_{ELf}, annually. You must include and estimate emissions for types of equipment that are excluded from monitoring, including difficult-to-monitor, unsafe-to-monitor and insulated pieces of equipment, pieces of equipment in heavy liquid service, pumps

with dual mechanical seals, agitators with dual mechanical seals, pumps with no external shaft, agitators with no external shaft, pressure relief devices in gas and vapor service with upstream rupture disk, sampling connection systems with closed-loop or closed purge systems, and pieces of equipment where leaks are routed through a closed vent system to a destruction device.

(e) *Calculate total fluorinated GHG emissions for each process and for production or transformation processes at the facility.* (1) Estimate annually the total mass of each fluorinated GHG emitted from each process, including emissions from process vents in paragraphs (c)(3) and (c)(4) of this section, as appropriate, and from equipment leaks in paragraph (d), using Equation L–29 of this section.

$$E_i = E_{Pfi} + E_{ELfi} \quad \text{(Eq. L-29)}$$

where:

E_i = Total mass of each fluorinated GHG f emitted from process i, annual basis (kg/year).

E_{Pfi} = Mass of fluorinated GHG f emitted from all process vents and all operating scenarios in process i, annually (kg/year, calculated in Equation L–24 or L–28 of this section, as appropriate).

E_{ELfi} = Mass of fluorinated GHG f emitted from equipment leaks for pieces of equipment for process i, annually (kg/year, calculated in paragraph (d)(3) of this section).

(2) Estimate annually the total mass of each fluorinated GHG emitted from each type of production or transformation process at the facility using Equation L–30 of this section. Develop separate totals for fluorinated gas production processes, transformation processes that transform fluorinated gases produced at the facility, and transformation processes that transform fluorinated gases produced at another facility.

$$E = \sum_{i=1}^{z} E_i * 0.001 \quad \text{(Eq. L-30)}$$

where:

E = Total mass of each fluorinated GHG f emitted from all fluorinated gas production processes, all transformation processes that transform fluorinated gases produced at the facility, or all transformation processes that transform fluorinated gases produced at another facility, as appropriate (metric tons).

E_i = Total mass of each fluorinated GHG f emitted from each production or transformation process, annual basis (kg/year, calculated in Equation L–29 of this section).

0.001 = Conversion factor from kg to metric tons.

z = Total number of fluorinated gas production processes, fluorinated gas transformation processes that transform fluorinated gases produced at the facility, or transformation processes that transform fluorinated gases produced at another facility, as appropriate.

(f) *Calculate fluorinated GHG emissions from destruction of fluorinated GHGs that were previously ''produced''.* Estimate annually the total mass of fluorinated GHGs emitted from destruction of fluorinated GHGs that were previously ''produced'' as defined at § 98.410(b) using Equation L–31 of this section:

$$E_D = RE_D * (1 - DE) \quad \text{(Eq. L-31)}$$

where:

E_D = The mass of fluorinated GHGs emitted annually from destruction of fluorinated GHGs that were previously ''produced'' as defined at § 98.410(b) (metric tons).

RE_D = The mass of fluorinated GHGs that were previously ''produced'' as defined at § 98.410(b) and that are fed annually into the destruction device (metric tons).

DE = Destruction efficiency of the destruction device (fraction).

(g) *Emissions from venting of residual fluorinated GHGs in containers.* If you vent residual fluorinated GHGs from containers, you must either measure the residual fluorinated GHGs vented from each container or develop a heel factor for each combination of fluorinated GHG, container size, and container type that you vent. You do not need to estimate de minimis emissions associated with good-faith attempts to recycle or recover residual fluorinated GHGs in or from containers.

(1) *Measuring contents of each container.* If you weigh or otherwise measure the contents of each container before venting the residual fluorinated GHGs, use Equation L–32 of this section to calculate annual emissions of each fluorinated GHG from venting of residual fluorinated GHG from containers. Convert pressures to masses as directed in paragraph (g)(2)(ii) of this section.

$$E_{Cf} = \sum_{1}^{n} H_{Bfj} - \sum_{1}^{n} H_{Efj} \qquad \text{(Eq. L-32)}$$

Where:

E_{Cf} = Total mass of each fluorinated GHG f emitted from the facility through venting of residual fluorinated GHG from containers, annual basis (metric tons/year).

H_{Bfj} = Mass of residual fluorinated GHG f in container j when received by facility (metric tons).

H_{Efj} = Mass of residual fluorinated GHG f in container j after evacuation by facility (metric tons). (Facility may equate to zero.)

n = Number of vented containers for each fluorinated GHG f.

(2) *Developing and applying heel factors.* If you use heel factors to estimate emissions of residual fluorinated GHGs vented from containers, you must annually develop these factors based on representative samples of the containers received by your facility from fluorinated GHG users.

(i) *Sample size.* For each combination of fluorinated GHG, container size, and container type that you vent, select a representative sample of containers that reflects the full range of quantities of residual gas returned in that container size and type. This sample must reflect the full range of the industries and a broad range of the customers that use and return the fluorinated GHG, container size, and container type. The minimum sample size for each combination of fluorinated GHG, container size, and container type must be 30, unless this is greater than the number of containers returned within that combination annually, in which case the contents of every container returned must be measured.

(ii) *Measurement of residual gas.* The residual weight or pressure you use for paragraph (g)(1) of this section must be determined by monitoring the mass or the pressure of your cylinders/containers according to § 98.124(k). If you monitor the pressure, convert the pressure to mass using a form of the ideal gas law, as displayed in Equation L–33 of this section, with an appropriately selected Z value.

$$m_R = \frac{p * V * MW}{Z * R * T * 10^6} \qquad \text{(Eq. L-33)}$$

Where:

m_R = Mass of residual gas in the container (metric ton).
p = Absolute pressure of the gas (Pa).
V = Volume of the gas (m^3).
MW = Molecular weight of the fluorinated GHG f (g/gmole).
Z = Compressibility factor.
R = Gas constant (8.314 Pa m^3/Kelvin mole).
T = Absolute temperature (K).
10^6 = Conversion factor (10^6 g/metric ton).

(iii) *Heel factor calculation*. To determine the heel factor h_{fj} for each combination of fluorinated GHG, container size, and container type, use paragraph (g)(1) of this section to calculate the total heel emissions for each sample selected under paragraph (g)(2)(i) of this section. Divide this total by the number of containers in the sample. Divide the result by the full capacity (the mass of the contents of a full container) of that combination of fluorinated GHG, container size, and container type. The heel factor is expressed as a fraction of the full capacity.

(iv) Calculate annual emissions of each fluorinated GHG from venting of residual fluorinated GHG from containers using Equation L–34 of this section.

$$E_{Cf} = \sum_{j=1}^{n} h_{fj} * N_{fj} * F_{fj} \qquad \text{(Eq. L-34)}$$

Where:

E_{Cf} = Total mass of each fluorinated GHG f emitted from the facility through venting of residual fluorinated GHG from containers, annual basis (metric tons/year).
h_{fj} = Facility-wide gas-specific heel factor for fluorinated GHG f (fraction) and container size and type j, as determined in paragraph (g)(2)(iii) of this section.
N_{fj} = Number of containers of size and type j returned to the fluorinated gas production facility.
F_{fj} = Full capacity of containers of size and type j containing fluorinated GHG f (metric tons).
n = Number of combinations of container sizes and types for fluorinated GHG f.

(h) *Effective destruction efficiency for each process*. If you used the emission factor or emission calculation factor method to calculate emissions from the process, use Equation L–35 to calculate the effective destruction efficiency for the process, including each process vent:

$$DE_{Effective} = 1 - \frac{\sum_{1}^{w}\left(\sum_{1}^{o}\sum_{1}^{v} E_{PVf}\right) \times GWP_f}{\sum_{1}^{w}\left(\sum_{1}^{o}\sum_{1}^{v} ECF_{PV-Uf} \times \left(Activity_U + Activity_C\right)\right) \times GWP_f + \sum_{1}^{w}\left(\sum_{1}^{o}\sum_{1}^{v} EF_{PV-Uf} \times \left(Activity_U + Activity_C\right)\right) \times GWP_f}$$

(Eq. L-35)

Where:

$DE_{Effective}$ = Effective destruction efficiency for process i (fraction).
E_{PVf} = Mass of fluorinated GHG f emitted from process vent v from process i, operating scenario j, for the year, calculated in Equation L–21, L–22, L–26, or L–27 of this section (kg).
GWP_f = Global warming potential for each greenhouse gas from Table A–1 of subpart A of this part.
ECF_{PV-Uf} = Emission calculation factor for fluorinated GHG f emitted from process vent v during process i, operating scenario j during periods when the process vent is not vented to the properly functioning destruction device, as used in Equation L–21; or emission calculation factor for fluorinated GHG f emitted from process vent v during process i, operating scenario j, as used in Equation L–26 or L–27 (kg emitted/activity) (*e.g.*, kg emitted/kg product), denoted as ''ECF_{PV}'' in those equations.

$EF_{PV\text{-}Uf}$ = Emission factor (uncontrolled) for fluorinated GHG f emitted from process vent v during process i, operating scenario j, as used in Equation L–22 (kg emitted/activity) (*e.g.*, kg emitted/kg product), denoted as ''$EF_{PV\text{–}U}$'' in that equation.

$Activity_U$ = Total process feed, process production, or other process activity for process i, operating scenario j during the year, for which the process vent is not vented to the properly functioning destruction device (*i.e.*, uncontrolled).

$Activity_C$ = Total process feed, process production, or other process activity for process i, operating scenario j during the year, for which emissions are vented to the properly functioning destruction device (*i.e.*, controlled).

o = Number of operating scenarios for process i.

v = Number of process vents in process i, operating scenario j.

w = Number of fluorinated GHGs emitted from the process.

[75 FR 74831, Dec. 1, 2010, as amended at 79 FR 73785, Dec. 11, 2014]

§ 98.124 Monitoring and QA/QC requirements.

(a) *Initial scoping speciation to identify fluorinated GHGs*. You must conduct an initial scoping speciation to identify all fluorinated GHGs that may be generated from processes that are subject to this subpart and that have at least one process vent with uncontrolled emissions of 1.0 metric ton or more of fluorinated GHGs per year based on the preliminary estimate of emissions in § 98.123(c)(1). You are not required to quantify emissions under this initial scoping speciation. Only fluorinated GHG products and by-products that occur in greater than trace concentrations in at least one stream must be identified under this paragraph.

(1) *Procedure*. To conduct the scoping speciation, select the stream(s) (including process streams or destroyed streams) or process vent(s) that would be expected to individually or collectively contain all of the fluorinated GHG by-products of the process at their maximum concentrations and sample and analyze the contents of these selected streams or process vents. For example, if fluorinated GHG by-products are separated into one low-boiling-point and one high-boiling-point stream, sample and analyze both of these streams. Alternatively, you may sample and analyze streams where fluorinated GHG by-products occur at less than their maximum concentrations, but you must ensure that the sensitivity of the analysis is sufficient to compensate for the expected difference in concentration. For example, if you sample and analyze streams where fluorinated GHG by-products are expected to occur at one half their maximum concentrations elsewhere in the process, you must ensure that the sensitivity of the analysis is sufficient to detect fluorinated GHG by-products that occur at concentrations of 0.05 percent or higher. You do not have to sample and analyze every stream or process vent, i.e., you do not have to sample and analyze a stream or process vent that contains only fluorinated GHGs that are contained in other streams or process vents that are being sampled and analyzed. Sampling and analysis must be conducted according to the procedures in paragraph (e) of this section.

(2) *Previous measurements*. If you have conducted testing of streams (including process streams or destroyed streams) or process vents less than 10 years before December 31, 2010, and the testing meets the requirements in paragraph (a)(1) of this section, you may use the previous testing to satisfy this requirement.

(b) *Mass balance monitoring*. Mass balance monitoring was available for reporting years 2011, 2012, 2013, and 2014 only. See paragraph 2 of Appendix A of this subpart for the former mass balance method.

(c) *Emission factor testing*. If you determine fluorinated GHG emissions using the site-specific process-vent-specific emission factor, you must meet the requirements in paragraphs (c)(1) through (c)(8) of this section.

(1) *Process vent testing*. Conduct an emissions test that is based on representative performance of the process or operating scenario(s) of the process, as applicable. For process vents for which you performed an initial scoping speciation, include in the emission test any fluorinated GHG that was identified in the initial scoping speciation. For process vents for which you did not perform an initial scoping speciation, include in the emission test any

fluorinated greenhouse gas that occurs in more than trace concentrations in the vent stream or, where a destruction device is used, in the inlet to the destruction device. You may include startup and shutdown events if the testing is sufficiently long or comprehensive to ensure that such events are not overrepresented in the emission factor. Malfunction events must not be included in the testing. If you do not detect a fluorinated GHG that was identified in the scoping speciation or that occurs in more than trace concentrations in the vent stream or in the inlet to the destruction device, assume that fluorinated GHG was emitted at one half of the detection limit.

(2) *Number of runs.* For continuous processes, sample the process vent for a minimum of three runs of 1 hour each. If the relative standard deviation (RSD) of the emission factor calculated based on the first three runs is greater than or equal to 0.15 for the emission factor, continue to sample the process vent for an additional three runs of 1 hour each. If more than one fluorinated GHG is measured, the RSD must be expressed in terms of total CO_2e.

(3) *Process activity measurements.* Determine the mass rate of process feed, process production, or other process activity as applicable during the test using flow meters, weigh scales, or other measurement devices or instruments with an accuracy and precision of ±1 percent of full scale or better. These devices may be the same plant instruments or procedures that are used for accounting purposes (such as weigh hoppers, belt weigh feeders, combination of volume measurements and bulk density, etc.) if these devices or procedures meet the requirement. For monitoring ongoing process activity, use flow meters, weigh scales, or other measurement devices or instruments with an accuracy and precision of ±1 percent of full scale or better.

(4) *Sample each process.* If process vents from separate processes are manifolded together to a common vent or to a common destruction device, you must follow paragraph (c)(4)(i), (c)(4)(ii), or (c)(4)(iii) of this section.

(i) You may sample emissions from each process in the ducts before the emissions are combined.

(ii) You may sample in the common duct or at the outlet of the destruction device when only one process is operating.

(iii) You may sample the combined emissions and use engineering calculations and assessments as specified in § 98.123(c)(4) to allocate the emissions to each manifolded process vent, provided the sum of the calculated fluorinated GHG emissions across the individual process vents is within 20 percent of the total fluorinated GHG emissions measured during the manifolded testing.

(5) *Emission test results.* The results of an emission test must include the analysis of samples, number of test runs, the results of the RSD analysis, the analytical method used, determination of emissions, the process activity, and raw data and must identify the process, the operating scenario, the process vents tested, and the fluorinated GHGs that were included in the test. The emissions test report must contain all information and data used to derive the process-vent-specific emission factor, as well as key process conditions during the test. Key process conditions include those that are normally monitored for process control purposes and may include but are not limited to yields, pressures, temperatures, etc. (*e.g.*, of reactor vessels, distillation columns).

(6) *Emissions testing frequency.* You must conduct emissions testing to develop the process-vent-specific emission factor under paragraph (c)(7)(i) or (c)(7)(ii) of this section, whichever occurs first:

(i) *10-year revision.* Conduct an emissions test every 10 years. In the calculations under § 98.123, apply the revised process-vent-specific emission factor to the process activity that occurs after the revision.

(ii) *Operating scenario change that affects the emission factor.* For planned operating scenario changes, you must estimate and compare the emission calculation factors for the changed operating scenario and for the original operating scenario whose process vent specific emission factor was measured. Use the calculation methods in § 98.123(c)(4). If the emission calculation

factor for the changed operating scenario is 15 percent or more different from the emission calculation factor for the previous operating scenario (this includes the cumulative change in the emission calculation factor since the last emissions test), you must conduct an emissions test to update the process-vent-specific emission factor, unless the difference between the operating scenarios is solely due to the application of a destruction device to emissions under the changed operating scenario. Conduct the test before February 28 of the year that immediately follows the change. In the calculations under § 98.123, apply the revised process-vent-specific emission factor to the process activity that occurs after the operating scenario change.

(7) *Subsequent measurements.* If a continuous process vent with fluorinated GHG emissions less than 10,000 metric tons CO_2e, per § 98.123(c)(2), is later found to have fluorinated GHG emissions of 10,000 metric tons CO_2e or greater, you must conduct the emissions testing for the process vent during the following year and develop the process-vent-specific emission factor from the emissions testing.

(8) *Previous measurements.* If you have conducted an emissions test less than 10 years before December 31, 2010, and the emissions testing meets the requirements in paragraphs (c)(1) through (c)(8) of this section, you may use the previous emissions testing to develop process-vent-specific emission factors. For purposes of paragraph (c)(7)(i) of this section, the date of the previous emissions test rather than December 31, 2010 shall constitute the beginning of the 10-year re-measurement cycle.

(d) *Emission calculation factor monitoring.* If you determine fluorinated GHG emissions using the site-specific process-vent-specific emission calculation factor, you must meet the requirements in paragraphs (d)(1) through (d)(4) of this section.

(1) *Operating scenario.* Perform the emissions calculation for the process vent based on representative performance of the operating scenario of the process. If more than one operating scenario applies to the process that contains the subject process vent, you must conduct a separate emissions calculation for operation under each operating scenario. For each continuous process vent that contains more than trace concentrations of any fluorinated GHG and for each batch process vent that contains more than trace concentrations of any fluorinated GHG, develop the process-vent-specific emission calculation factor for each operating scenario. For continuous process vents, determine the emissions based on the process activity for the representative performance of the operating scenario. For batch process vents, determine emissions based on the process activity for each typical batch operating scenario.

(2) *Process activity measurements.* Use flow meters, weigh scales, or other measurement devices or instruments with an accuracy and precision of ±1 percent of full scale or better for monitoring ongoing process activity.

(3) *Emission calculation results.* The emission calculation must be documented by identifying the process, the operating scenario, and the process vents. The documentation must contain the information and data used to calculate the process-vent-specific emission calculation factor.

(4) *Operating scenario change that affects the emission calculation factor.* For planned operating scenario changes that are expected to change the process-vent-specific emission calculation factor, you must conduct an emissions calculation to update the process-vent-specific emission calculation factor. In the calculations under § 98.123, apply the revised emission calculation factor to the process activity that occurs after the operating scenario change.

(5) *Previous calculations.* If you have performed an emissions calculation for the process vent and operating scenario less than 10 years before December 31, 2010, and the emissions calculation meets the requirements in paragraphs (d)(1) through (d)(4) of this section and in § 98.123(c)(4)(i) and (c)(4)(ii), you may use the previous calculation to develop the site-specific process-vent-specific emission calculation factor.

(e) *Emission and stream testing, including analytical methods.* Select and document testing and analytical methods as follows:

(1) *Sampling and mass measurement for emission testing.* For emission testing in process vents or at the stack, use methods for sampling, measuring volumetric flow rates, non-fluorinated-GHG gas analysis, and measuring stack gas moisture that have been validated using a scientifically sound validation protocol.

(i) Sample and velocity traverses. Acceptable methods include but are not limited to EPA Method 1 or 1A in Appendix A–1 of 40 CFR part 60.

(ii) Velocity and volumetric flow rates. Acceptable methods include but are not limited to EPA Method 2, 2A, 2B, 2C, 2D, 2F, or 2G in Appendix A–1 of 40 CFR part 60. Alternatives that may be used for determining flow rates include OTM–24 (incorporated by reference, see § 98.7) and ALT–012 (incorporated by reference, see § 98.7).

(iii) Non-fluorinated-GHG gas analysis. Acceptable methods include but are not limited to EPA Method 3, 3A, or 3B in Appendix A–1 of 40 CFR part 60.

(iv) Stack gas moisture. Acceptable methods include but are not limited to EPA Method 4 in Appendix A–1 of 40 CFR part 60.

(2) *Analytical methods.* Use a quality-assured analytical measurement technology capable of detecting the analyte of interest at the concentration of interest and use a sampling and analytical procedure validated with the analyte of interest at the concentration of interest. Where calibration standards for the analyte are not available, a chemically similar surrogate may be used. Acceptable analytical measurement technologies include but are not limited to gas chromatography (GC) with an appropriate detector, infrared (IR), fourier transform infrared (FTIR), and nuclear magnetic resonance (NMR). Acceptable methods for determining fluorinated GHGs include EPA Method 18 in appendix A–1 of 40 CFR part 60, EPA Method 320 in appendix A of 40 CFR part 63, EPA 430–R–10–003 (incorporated by reference, see § 98.7), ASTM D6348–03 (incorporated by reference, see § 98.7), or other analytical methods validated using EPA Method 301 at 40 CFR part 63, appendix A or some other scientifically sound validation protocol. Acceptable methods for determining total fluorine concentrations for fluorine-containing compounds in streams under paragraph (b)(3) of this section include ASTM D7359–08 (incorporated by reference, see § 98.7), or other analytical methods validated using EPA Method 301 at 40 CFR part 63, appendix A or some other scientifically sound validation protocol. The validation protocol may include analytical technology manufacturer specifications or recommendations.

(3) *Documentation in GHG Monitoring Plan.* Describe the sampling, measurement, and analytical method(s) used under paragraphs (e)(1) and (e)(2) of this section in the GHG Monitoring Plan as required under § 98.3(g)(5). Identify the methods used to obtain the samples and measurements listed under paragraphs (e)(1)(i) through (e)(1)(iv) of this section. At a minimum, include in the description of the analytical method a description of the analytical measurement equipment and procedures, quantitative estimates of the method's accuracy and precision for the analytes of interest at the concentrations of interest, as well as a description of how these accuracies and precisions were estimated, including the validation protocol used.

(f) *Emission monitoring for pieces of equipment.* If you conduct a site-specific leak detection method or monitoring approach for pieces of equipment, follow paragraph (f)(1) or (f)(2) of this section and follow paragraph (f)(3) of this section.

(1) *Site-specific leak monitoring approach.* You may develop a site-specific leak monitoring approach. You must validate the leak monitoring method and describe the method and the validation in the GHG Monitoring Plan. To validate the site-specific method, you may, for example, release a known rate of the fluorinated GHGs or surrogates of interest, or you may compare the results of the site-specific method to those of a method that has been validated for the fluorinated GHGs or surrogates of interest. In the description of the leak detection method and its validation, include a detailed description of the method, including the procedures and equipment used and any sampling strategies. Also include the

rationale behind the method, including why the method is expected to result in an unbiased estimate of emissions from equipment leaks. If the method is based on methods that are used to detect or quantify leaks or other emissions in other regulations, standards, or guidelines, identify and describe the regulations, standards, or guidelines and why their methods are applicable to emissions of fluorinated GHGs or surrogates from leaks. Account for possible sources of error in the method, e.g., instrument detection limits, measurement biases, and sampling biases. Describe validation efforts, including but not limited to any comparisons against standard leaks or concentrations, any comparisons against other methods, and their results. If you use the Screening Ranges Approach, the EPA Correlation Approach, or the Unit-Specific Correlation Approach with a monitoring instrument that does not meet all of the specifications in EPA Method 21 at 40 CFR part 60, appendix A–7, then explain how and why the monitoring instrument, as used at your facility, would nevertheless be expected to accurately detect and quantify emissions of fluorinated GHGs or surrogates from process equipment, and describe how you verified its accuracy. For all methods, provide a quantitative estimate of the accuracy and precision of the method.

(2) *EPA Method 21 monitoring.* If you determine that EPA Method 21 at 40 CFR part 60, appendix A–7 is appropriate for monitoring a fluorinated GHG, conduct the screening value concentration measurements using EPA Method 21 at 40 CFR part 60, appendix A–7 to determine the screening range data or the actual screening value data for the Screening Ranges Approach, EPA Correlation Approach, or the Unit-Specific Correlation Approach. For the one-time testing to develop the Unit-Specific Correlation equations in EPA–453/R–95–017 (incorporated by reference, see §98.7), conduct the screening value concentration measurements using EPA Method 21 at 40 CFR part 60, appendix A–7 and the bagging procedures to measure mass emissions. Concentration measurements of bagged samples must be conducted using gas chromatography following EPA Method 18 analytical procedures or other method according to §98.124(e). Use methane or other appropriate compound as the calibration gas.

(3) *Frequency of measurement and sampling.* If you estimate emissions based on monitoring of equipment, conduct monitoring at least annually. Sample at least one-third of equipment annually (except for equipment that is unsafe-to-monitor, difficult-to-monitor, insulated, or in heavy liquid service, pumps with dual mechanical seals, agitators with dual mechanical seals, pumps with no external shaft, agitators with no external shaft, pressure relief devices in gas and vapor service with an upstream rupture disk, sampling connection systems with closed-loop or closed purge systems, and pieces of equipment whose leaks are routed through a closed vent system to a destruction device), changing the sample each year such that at the end of three years, all equipment in the process has been monitored. If you estimate emissions based on a sample of the equipment in the process, ensure that the sample is representative of the equipment in the process. If you have multiple processes that have similar types of equipment in similar service, and that produce or transform similar fluorinated GHGs (in terms of chemical composition, molecular weight, and vapor pressure) at similar pressures and concentrations, then you may annually sample all of the equipment in one third of these processes rather than one third of the equipment in each process.

(g) *Destruction device performance testing.* If you vent or otherwise feed fluorinated GHGs into a destruction device and apply the destruction efficiency of the device to one or more fluorinated GHGs in §98.123, you must conduct emissions testing to determine the destruction efficiency for each fluorinated GHG to which you apply the destruction efficiency. You must either determine the destruction efficiency for the most-difficult-to-destroy fluorinated GHG fed into the device (or a surrogate that is still more difficult to destroy) and apply that destruction efficiency to all the fluorinated GHGs

fed into the device or alternatively determine different destruction efficiencies for different groups of fluorinated GHGs using the most-difficult-to-destroy fluorinated GHG of each group (or a surrogate that is still more difficult to destroy).

(1) *Destruction efficiency testing*. You must sample the inlet and outlet of the destruction device for a minimum of three runs of 1 hour each to determine the destruction efficiency. You must conduct the emissions testing using the methods in paragraph (e) of this section. To determine the destruction efficiency, emission testing must be conducted when operating at high loads reasonably expected to occur (i.e., representative of high total fluorinated GHG load that will be sent to the device) and when destroying the most-difficult-to-destroy fluorinated GHG (or a surrogate that is still more difficult to destroy) that is fed into the device from the processes subject to this subpart or that belongs to the group of fluorinated GHGs for which you wish to establish a DE. If the outlet concentration of a fluorinated GHG that is fed into the device is below the detection limit of the method, you may use a concentration of one-half the detection limit to estimate the destruction efficiency.

(i) If perfluoromethane (CF_4) is vented to the destruction device in any stream in more than trace concentrations, you must test and determine the destruction efficiency achieved specifically for CF_4 to take credit for the CF_4 emissions reduction.

(ii) If sulfur hexafluoride (SF_6) is vented to the destruction device in any stream in more than trace concentrations, you must test and determine the destruction efficiency achieved specifically for SF_6, or alternatively for CF_4 as a surrogate, to take credit for the SF_6 emissions reduction.

(iii) If saturated perfluorocarbons other than CF_4 are vented to the destruction device in any stream in more than trace concentrations, you must test and determine the destruction efficiency achieved for the lowest molecular weight saturated perfluorocarbon vented to the destruction device, or alternatively for a lower molecular weight saturated PFC or SF_6 as a surrogate, to take credit for the PFC emission reduction.

(iv) For all other fluorinated GHGs that are vented to the destruction device in any stream in more than trace concentrations, you must test and determine the destruction efficiency achieved for the most-difficult-to-destroy fluorinated GHG or surrogate vented to the destruction device. Examples of acceptable surrogates include the Class 1 compounds (ranked 1 through 34) in Appendix D, Table D–1 of ''Guidance on Setting Permit Conditions and Reporting Trial Burn Results; Volume II of the Hazardous Waste Incineration Guidance Series,'' January 1989, EPA Publication EPA 625/6–89/019. You can obtain a copy of this publication by contacting the Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, (202) 272–0167, *http://www.epa.gov*.

(2) *Destruction efficiency testing frequency*. You must conduct emissions testing to determine the destruction efficiency as provided in paragraphs (g)(2)(i) or (ii) of this section, whichever occurs first:

(i) Conduct an emissions test every 10 years. In the calculations under § 98.123, apply the updated destruction efficiency to the destruction that occurs after the test.

(ii) *Destruction device changes that affect the destruction efficiency*. If you make a change to the destruction device that would be expected to affect the destruction efficiency, you must conduct an emissions test to update the destruction efficiency. Conduct the test before the February 28 of the year that immediately follows the change. In the calculations under § 98.123, apply the updated destruction efficiency to the destruction that occurs after the change to the device.

(3) *Previous testing* .If you have conducted an emissions test within the 10 years prior to December 31, 2010, and the emissions testing meets the requirements in paragraph (g)(1) of this section, you may use the destruction efficiency determined during this previous emissions testing. For purposes of paragraph (g)(2)(i) of this section, the date of the previous emissions test rather than December 31, 2010 shall

constitute the beginning of the 10-year re-measurement cycle.

(4) *Hazardous Waste Combustor testing.* If a destruction device used to destroy fluorinated GHG is subject to subpart EEE of part 63 of this chapter or any portion of parts 260–270 of this chapter, you may apply the destruction efficiency specifically determined for CF_4, SF_6, PFCs other than CF_4, and all other fluorinated GHGs under that test if the testing meets the criteria in paragraph (g)(1)(i) through (g)(1)(iv) of this section. If the testing of the destruction efficiency under subpart EEE of part 63 of this chapter was conducted more than 10 years ago, you may use the most recent destruction efficiency test provided that the design, operation, or maintenance of the destruction device has not changed since the last destruction efficiency test in a manner that could affect the ability to achieve the destruction efficiency, and the hazardous waste is fed into the normal flame zone.

(h) *Mass of previously produced fluorinated GHGs fed into destruction device.* You must measure the mass of each fluorinated GHG that is fed into the destruction device in more than trace concentrations and that was previously produced as defined at § 98.410(b). Such fluorinated GHGs include but are not limited to quantities that are shipped to the facility by another facility for destruction and quantities that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore destroyed. You must use flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of ±1 percent of full scale or better. If the measured mass includes more than trace concentrations of materials other than the fluorinated GHG being destroyed, you must measure the concentration of the fluorinated GHG being destroyed. You must multiply this concentration (mass fraction) by the mass measurement to obtain the mass of the fluorinated GHG fed into the destruction device.

(i) *Emissions due to malfunctions of destruction device.* In their estimates of the mass of fluorinated GHG destroyed, fluorinated gas production facilities that destroy fluorinated GHGs must account for any temporary reductions in the destruction efficiency that result from any malfunctions of the destruction device, including periods of operation outside of the operating conditions defined in operating permit requirements and/or destruction device manufacturer specifications.

(j) *Emissions due to process startup, shutdown, or malfunctions.* Fluorinated GHG production facilities must account for fluorinated GHG emissions that occur as a result of startups, shutdowns, and malfunctions, either recording fluorinated GHG emissions during these events, or documenting that these events do not result in significant fluorinated GHG emissions. Facilities may use the calculation methods in § 98.123(c)(1) to estimate emissions during startups, shutdowns, and malfunctions.

(k) *Monitoring for venting residual fluorinated GHG in containers.* Measure the residual fluorinated GHG in containers received by the facility either using scales or using pressure and temperature measurements. You may use pressure and temperature measurements only in cases where no liquid fluorinated GHG is present in the container. Scales must have an accuracy and precision of ±1 percent or better of the filled weight (gas plus tare) of the containers of fluorinated GHGs that are typically weighed on the scale. For example, for scales that are generally used to weigh cylinders that contain 115 pounds of gas when full and that have a tare weight of 115 pounds, this equates to ±1 percent of 230 pounds, or ±2.3 pounds. Pressure gauges and thermometers used to measure quantities that are monitored under this paragraph must have an accuracy and precision of ±1 percent of full scale or better.

(l) Initial scoping speciations, emissions testing, emission factor development, emission calculation factor development, emission characterization development, and destruction efficiency determinations must be completed by February 29, 2012 for processes and operating scenarios that operate between December 31, 2010 and December 31, 2011. For other processes and operating scenarios, initial scoping

speciations, emissions testing, emission factor development, emission calculation factor development, emission characterization development, and destruction efficiency determinations must be complete by February 28 of the year following the year in which the process or operating scenario commences or recommences.

(m) Calibrate all flow meters, weigh scales, and combinations of volumetric and density measures using monitoring instruments traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST) or other recognized national measurement institute. Recalibrate all flow meters, weigh scales, and combinations of volumetric and density measures at the minimum frequency specified by the manufacturer. Use any of the following applicable flow meter test methods or the calibration procedures specified by the flow meter, weigh-scale, or other volumetric or density measure manufacturer.

(1) ASME MFC–3M–2004 Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi (incorporated by reference, see § 98.7).

(2) ASME MFC–4M–1986 (Reaffirmed 1997) Measurement of Gas Flow by Turbine Meters (incorporated by reference, see § 98.7).

(3) ASME–MFC–5M–1985, (Reaffirmed 1994) Measurement of Liquid Flow in Closed Conduits Using Transit-Time Ultrasonic Flowmeters (incorporated by reference, see § 98.7).

(4) ASME MFC–6M–1998 Measurement of Fluid Flow in Pipes Using Vortex Flowmeters (incorporated by reference, see § 98.7).

(5) ASME MFC–7M–1987 (Reaffirmed 1992) Measurement of Gas Flow by Means of Critical Flow Venturi Nozzles (incorporated by reference, see § 98.7).

(6) ASME MFC–9M–1988 (Reaffirmed 2001) Measurement of Liquid Flow in Closed Conduits by Weighing Method (incorporated by reference, see § 98.7).

(7) ASME MFC–11M–2006 Measurement of Fluid Flow by Means of Coriolis Mass Flowmeters (incorporated by reference, see § 98.7).

(8) ASME MFC–14M–2003 Measurement of Fluid Flow Using Small Bore Precision Orifice Meters (incorporated by reference, see § 98.7).

(n) All analytical equipment used to determine the concentration of fluorinated GHGs, including but not limited to gas chromatographs and associated detectors, infrared (IR), fourier transform infrared (FTIR), and nuclear magnetic resonance (NMR) devices, must be calibrated at a frequency needed to support the type of analysis specified in the GHG Monitoring Plan as required under § 98.124(e)(3) and 93.3(g)(5). Quality assurance samples at the concentrations of concern must be used for the calibration. Such quality assurance samples must consist of or be prepared from certified standards of the analytes of concern where available; if not available, calibration must be performed by a method specified in the GHG Monitoring Plan.

(o) Special provisions for estimating 2011 and subsequent year emissions.

(1) *Best available monitoring methods.* To estimate emissions that occur from January 1, 2011 through June 30, 2011, owners or operators may use best available monitoring methods for any parameter that cannot reasonably be measured according to the monitoring and QA/QC requirements of this subpart. The owner or operator must use the calculation methodologies and equations in § 98.123, but may use the best available monitoring method for any parameter for which it is not reasonably feasible to acquire, install, or operate a required piece of monitoring equipment, to procure measurement services from necessary providers, or to gain physical access to make required measurements in a facility by January 1, 2011. Starting no later than July 1, 2011, the owner or operator must discontinue using best available methods and begin following all applicable monitoring and QA/QC requirements of this part, except as provided in paragraphs (o)(2) through (o)(4) of this section. Best available monitoring methods means any of the following methods specified in this paragraph:

(i) Monitoring methods currently used by the facility that do not meet the specifications of this subpart.

(ii) Supplier data.

(iii) Engineering calculations or assessments.

(iv) Other company records.

(2) *Requests for extension of the use of best available monitoring methods to estimate 2011 emissions: parameters other than scoping speciations, emission factors, and emission characterizations.* The owner or operator may submit a request to the Administrator to use one or more best available monitoring methods for parameters other than scoping speciations, emission factors, or emission characterizations to estimate emissions that occur between July 1, 2011 and December 31, 2011.

(i) *Timing of request.* The extension request must be submitted to EPA no later than February 28, 2011.

(ii) *Content of request.* Requests must contain the following information:

(A) A list of specific items of monitoring equipment and measurement services for which the request is being made and the locations (e.g., processes and vents) where each piece of monitoring equipment will be installed and where each measurement service will be provided.

(B) Identification of the specific rule requirements for which the monitoring equipment or measurement service is needed.

(C) A description of the reasons why the needed equipment could not be obtained, installed, or operated or why the needed measurement service could not be provided before July 1, 2011. The owner or operator must consider all of the data collection and emission calculation options outlined in the rule for a specific emissions source before claiming that a specific safety, technical, logistical, or legal barrier exists.

(D) If the reason for the extension is that the equipment cannot be purchased, delivered, or installed before July 1, 2011, include supporting documentation such as the date the monitoring equipment was ordered, investigation of alternative suppliers, the dates by which alternative vendors promised delivery or installation, backorder notices or unexpected delays, descriptions of actions taken to expedite delivery or installation, and the current expected date of delivery or installation.

(E) If the reason for the extension is that service providers were unable to provide necessary measurement services, include supporting documentation demonstrating that these services could not be acquired before July 1, 2011. This documentation must include written correspondence to and from at least two service providers stating that they will not be able to provide the necessary services before July 1, 2011.

(F) If the reason for the extension is that the process is operating continuously without process shutdown, include supporting documentation showing that it is not practicable to isolate the process equipment or unit and install the measurement device without a full shutdown or a hot tap, and that there is no opportunity before July 1, 2011 to install the device. Include the date of the three most recent shutdowns for each relevant process equipment or unit, the frequency of shutdowns for each relevant process equipment or unit, and the date of the next planned process equipment or unit shutdown.

(G) If the reason for the extension is that access to process streams, emissions streams, or destroyed streams, as applicable, could not be gained before July 1, 2011 for reasons other than the continuous operation of the process without shutdown, include illustrative documentation such as photographs and engineering diagrams demonstrating that access could not be gained.

(H) A description of the best available monitoring methods that will be used and how their results will be applied (i.e., which calculation method will be used) to develop the emission estimate. Where the proposed best available monitoring method is the use of current monitoring data in the mass-balance approach, include the estimated relative and absolute errors of the mass-balance approach using the current monitoring data.

(I) A description of the specific actions the owner or operator will take to comply with monitoring requirements by January 1, 2012.

(3) *Requests for extension of the use of best available monitoring methods to estimate 2011 emissions: scoping speciations,*

emission factors, and emission characterizations. The owner or operator may submit a request to the Administrator to use one or more best available monitoring methods for scoping speciations, emission factors, and emission characterizations to estimate emissions that occur between July 1, 2011 and December 31, 2011.

(i) *Timing of request.* The extension request must be submitted to EPA no later than June 30, 2011.

(ii) *Content of request.* Requests must contain the information outlined in paragraph (o)(2)(ii) of this section, substituting March 1, 2012 for July 1, 2011 and substituting March 1, 2013 for January 1, 2012.

(iii) *Reporting of 2011 emissions using scoping speciations, emission factors, and emission characterizations developed after February 29, 2012.* Facilities that are approved to use best available monitoring methods in 2011 for scoping speciations, emission factors, or emission characterizations for certain processes must submit, by March 31, 2013, revised 2011 emission estimates that reflect the scoping speciations, emission factors, and emission characterizations that are measured for those processes after February 29, 2012. If the operating scenario for 2011 is different from all of the operating scenarios for which emission factors are developed after February 29, 2012, use Equation L–23 at § 98.123(c)(3)(viii) to adjust the emission factor(s) or emission characterizations measured for the post-February 29, 2012 operating scenario(s) to account for the differences.

(4) *Requests for extension of the use of best available monitoring methods to estimate emissions that occur after 2011.* EPA does not anticipate approving the use of best available monitoring methods to estimate emissions that occur beyond December 31, 2011; however, EPA reserves the right to review requests for unique and extreme circumstances which include safety, technical infeasibility, or inconsistency with other local, State or Federal regulations.

(i) *Timing of request.* The extension request must be submitted to EPA no later than June 30, 2011.

(ii) *Content of request.* Requests must contain the following information:

(A) The information outlined in paragraph (o)(2)(ii) of this section. For scoping speciations, emission factors, and emission characterizations, substitute March 1, 2013 for July 1, 2011 and substitute March 1, 2014 for January 1, 2012. For other parameters, substitute January 1, 2012 for July 1, 2011 and substitute January 1, 2013 for January 1, 2012.

(B) A detailed outline of the unique circumstances necessitating an extension, including specific data collection issues that do not meet safety regulations, technical infeasibility or specific laws or regulations that conflict with data collection. The owner or operator must consider all the data collection and emission calculation options outlined in the rule for a specific emissions source before claiming that a specific safety, technical or legal barrier exists.

(C) A detailed explanation and supporting documentation of how and when the owner or operator will receive the required data and/or services to comply with the reporting requirements of this subpart in the future.

(E) The Administrator reserves the right to require that the owner or operator provide additional documentation.

(iii) *Reporting of 2011 and subsequent year emissions using scoping speciations, emission factors, and emission characterizations developed after approval to use best available monitoring methods expires.* Facilities that are approved to use best available monitoring methods in 2011 and subsequent years for scoping speciations, emission factors, or emission characterizations for certain processes must submit, by March 31 of the year that begins one year after their approval to use best available monitoring method(s) expires, revised emission estimates for 2011 and subsequent years that reflect the scoping speciations, emission factors, and emission characterizations that are measured for those processes in 2013 or subsequent years. If the operating scenario for 2011 or subsequent years is different from all of the operating scenarios for which emission factors or emission characterizations are developed in 2013 or subsequent years, use Equation L–23 of § 98.123(c)(3)(viii) to adjust the emission

factor(s) or emission characterization(s) measured for the new operating scenario(s) to account for the differences.

(5) *Approval criteria.* To obtain approval, the owner or operator must demonstrate to the Administrator's satisfaction that it is not reasonably feasible to acquire, install, or operate the required piece of monitoring equipment, to procure measurement services from necessary providers, or to gain physical access to make required measurements in a facility according to the requirements of this subpart by the dates specified in paragraphs (o)(2), (3), and (4) of this section for any of the reasons described in paragraph (o)(2)(ii) of this section, or, for requests under paragraph (o)(4) of this section, any of the reasons described in paragraph (o)(4)(ii)(B) of this section.

[75 FR 74831, Dec. 1, 2010, as amended at 79 FR 73787, Dec. 11, 2014

§ 98.125 Procedures for estimating missing data.

(a) A complete record of all measured parameters used in the GHG emissions calculations in § 98.123 is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter must be used in the calculations as specified in the paragraphs (b) and (c) of this section. You must document and keep records of the procedures used for all such estimates.

(b) For each missing value of the fluorinated GHG concentration or fluorine-containing compound concentration, the substitute data value must be the arithmetic average of the quality-assured values of that parameter immediately preceding and immediately following the missing data incident.

(c) For each missing value of the mass produced, fed into the production process, fed into the transformation process, or fed into destruction devices, the substitute value of that parameter must be a secondary mass measurement where such a measurement is available. For example, if the mass produced is usually measured with a flowmeter at the inlet to the day tank and that flowmeter fails to meet an accuracy or precision test, malfunctions, or is rendered inoperable, then the mass produced may be estimated by calculating the change in volume in the day tank and multiplying it by the density of the product. Where a secondary mass measurement is not available, the substitute value of the parameter must be an estimate based on a related parameter. For example, if a flowmeter measuring the mass fed into a destruction device is rendered inoperable, then the mass fed into the destruction device may be estimated using the production rate and the previously observed relationship between the production rate and the mass flow rate into the destruction device.

§ 98.126 Data reporting requirements.

(a) *All facilities.* In addition to the information required by § 98.3(c), you must report the information in paragraphs (a)(2) through (6) of this section according to the schedule in paragraph (a)(1) of this section, except as otherwise provided in paragraph (j) of this section or in § 98.3(c)(4)(vii) and Table A–7 of subpart A of this part.

(1) *Frequency of reporting under paragraph (a) of this section.* The information in paragraphs (a)(2) through (6) of this section must be reported annually.

(2) *Generically-identified process.* For each production and transformation process at the facility, you must:

(i) Provide a number, letter, or other identifier for the process. This identifier must be consistent from year to year.

(ii) Indicate whether the process is a fluorinated gas production process, a fluorinated gas transformation process where no fluorinated GHG reactant is produced at another facility, or a fluorinated gas transformation process where one or more fluorinated GHG reactants are produced at another facility.

(iii) Indicate whether the process could be characterized as reaction, distillation, or packaging (include all that apply).

(iv) For each generically-identified process and each fluorinated GHG group, report the method(s) used to determine the mass emissions of that fluorinated GHG group from that process from vents (*i.e.*, mass balance (for reporting years 2011, 2012, 2013, and 2014

only), process-vent-specific emission factor, or process-vent-specific emission calculation factor).

(v) For each generically-identified process and each fluorinated GHG group, report the method(s) used to determine the mass emissions of that fluorinated GHG group from that process from equipment leaks, unless you used the mass balance method (for reporting years 2011, 2012, 2013, and 2014 only) for that process.

(3) *Emissions from production and transformation processes, process level, multiple products.* If your facility produces more than one fluorinated gas product, for each generically-identified process and each fluorinated GHG group, you must report the total GWP-weighted emissions of all fluorinated GHGs in that group from the process, in metric tons CO_2e.

(4) *Emissions from production and transformation processes, facility level, multiple products.* If your facility produces more than one fluorinated gas product, you must report the information in paragraphs (a)(4)(i) and (ii) of this section, as applicable, for emissions from production and transformation processes.

(i) For each fluorinated GHG with emissions of 1,000 metric tons of CO_2e or more from production and transformation processes, summed across the facility as a whole, you must report the total mass in metric tons of the fluorinated GHG emitted from production and transformation processes, summed across the facility as a whole. If the fluorinated GHG does not have a chemical-specific GWP in Table A–1 of subpart A, identify the fluorinated GHG group of which that fluorinated GHG is a member.

(ii) For all other fluorinated GHGs emitted from production and transformation processes, you must report the total GWP-weighted emissions from production and transformation processes of those fluorinated GHGs by fluorinated GHG group, summed across the facility as a whole, in metric tons of CO_2e.

(5) *Emissions from production and transformation processes, facility level, one product only.* If your facility produces only one fluorinated gas product, aggregate and report the total GWP-weighted emissions from production and transformation processes of fluorinated GHGs by fluorinated GHG group for the facility as a whole, in metric tons of CO_2e, with the following exception: Where emissions consist of a major fluorinated GHG constituent of a fluorinated gas product, and the product is sold or transferred to another person, report the total mass in metric tons of each fluorinated GHG that is emitted from production and transformation processes and that is a major fluorinated GHG constituent of the product. If the fluorinated GHG does not have a chemical-specific GWP in Table A–1 of subpart A, identify the fluorinated GHG group of which that fluorinated GHG is a member.

(6) *Effective destruction efficiency.* For each generically-identified process, use Table L–1 of this subpart to report the range that encompasses the effective destruction efficiency, $DE_{effective}$, calculated for that process using Equation L–35 of this subpart. The effective destruction efficiency must be reported on a CO_2e basis.

(b) *Reporting for mass balance method for reporting years 2011, 2012, 2013, and 2014.* If you used the mass balance method to calculate emissions for any of the reporting years 2011, 2012, 2013, or 2014, you must conduct mass balance reporting for that reporting year. For processes whose emissions were determined using the mass balance method under the former § 98.123(b), as included in paragraph 1 of Appendix A of this subpart, you must report the information listed in paragraphs (b)(1) and (b)(2) of this section for each process on an annual basis.

(1) If you calculated the relative and absolute errors under the former § 98.123(b)(1), the overall absolute and relative errors calculated for the process under the former § 98.123(b)(1), in metric tons CO_2e and decimal fraction, respectively.

(2) The method used to estimate the total mass of fluorine in destroyed or recaptured streams (specify the former § 98.123(b)(4) or (15), as included in paragraph 1 of Appendix A of this subpart).

(c) *Reporting for emission factor and emission calculation factor approach.* For

processes whose emissions are determined using the emission factor approach under § 98.123(c)(3) or the emission calculation factor under § 98.123(c)(4), you must report the following for each generically-identified process.

(1) [Reserved]

(2) [Reserved]

(3) For each fluorinated GHG group, the total GWP-weighted mass of all fluorinated GHGs in that group emitted from all process vents combined, in metric tons of CO_2e.

(4) For each fluorinated GHG group, the total GWP-weighted mass of all fluorinated GHGs in that group emitted from equipment leaks, in metric tons of CO_2e.

(d) *Reporting for missing data.* Where missing data have been estimated pursuant to § 98.125, you must report:

(1) The generically-identified process for which the data were missing.

(2) The reason the data were missing, the length of time the data were missing, and the method used to estimate the missing data.

(3) Estimates of the missing data for all missing data associated with data elements required to be reported in this section.

(e) *Reporting of destruction device excess emissions data.* Each fluorinated gas production facility that destroys fluorinated GHGs must report the excess emissions that result from malfunctions of the destruction device, and these excess emissions must be reflected in the fluorinated GHG estimates in the former § 98.123(b) as included in paragraph 1 of Appendix A of this subpart for the former mass balance method, and in § 98.123(c). Such excess emissions would occur if the destruction efficiency was reduced due to the malfunction.

(f) *Reporting of destruction device testing.* By March 31, 2012 or by March 31 of the year immediately following the year in which it begins fluorinated GHG destruction, each fluorinated gas production facility that destroys fluorinated GHGs must submit a report containing the information in paragraphs (f)(1) through (f)(4) of this section. This report is one-time unless you make a change to the destruction device that would be expected to affect its destruction efficiencies.

(1) [Reserved]

(2) Chemical identity of the fluorinated GHG(s) used in the performance test conducted to determine destruction efficiency, including surrogates, and information on why the surrogate is sufficient to demonstrate the destruction efficiency for each fluorinated GHG, consistent with requirements in § 98.124(g)(1), vented to the destruction device.

(3) Date of the most recent destruction device test.

(4) Name of all applicable Federal or State regulations that may apply to the destruction process.

(5) [Reserved]

(g) *Reporting for destruction of previously produced fluorinated GHGs.* Each fluorinated gas production facility that destroys fluorinated GHGs must report, separately from the fluorinated GHG emissions reported under paragraphs (b) or (c) of this section, the following for each previously produced fluorinated GHG destroyed:

(1) [Reserved]

(2) The mass of the fluorinated GHG emitted from the destruction device (metric tons).

(h) *Reporting of emissions from venting of residual fluorinated GHGs from containers.* Each fluorinated gas production facility that vents residual fluorinated GHGs from containers must report the following for each fluorinated GHG vented:

(1) The mass of the residual fluorinated GHG vented from containers annually (metric tons).

(2) [Reserved]

(i) *Reporting of fluorinated GHG products of incomplete combustion (PICs) of fluorinated gases.* Each fluorinated gas production facility that destroys fluorinated gases must submit a one-time report by June 30, 2011, that describes any measurements, research, or analysis that it has performed or obtained that relate to the formation of products of incomplete combustion that are fluorinated GHGs during the destruction of fluorinated gases. The report must include the methods and results of any measurement or modeling studies, including the products of incomplete combustion for which the

exhaust stream was analyzed, as well as copies of relevant scientific papers, if available, or citations of the papers, if they are not. No new testing is required to fulfill this requirement.

(j) *Special provisions for reporting years 2011, 2012, and 2013 only*. For reporting years 2011, 2012, and 2013, the owner or operator of a facility must comply with paragraphs (j)(1), (j)(2), and (j)(3) of this section.

(1) *Timing*. The owner or operator of a facility is not required to report the data elements at § 98.3(c)(4)(iii) and paragraphs (a)(2), (a)(3), (a)(4), (a)(6), (b), (c), (d), (e), (f), (g), and (h) of this section until the later of March 31, 2015 or the date set forth for that data element at § 98.3(c)(4)(vii) and Table A–7 of Subpart A of this part.

(2) *Excess emissions*. Excess emissions of fluorinated GHGs resulting from destruction device malfunctions must be reflected in the reported facility-wide CO_2e emissions but are not required to be reported separately.

(3) *Calculation and reporting of CO_2e*. You must report the total fluorinated GHG emissions covered by this subpart, expressed in metric tons of CO_2e. This includes emissions from all fluorinated gas production processes, all fluorinated gas transformation processes that are not part of a fluorinated gas production process, all fluorinated gas destruction processes that are not part of a fluorinated gas production process or a fluorinated gas transformation process, and venting of residual fluorinated GHGs from containers returned from the field. To convert fluorinated GHG emissions to CO_2e for reporting under this section, use Equation A–1 of § 98.2. For fluorinated GHGs whose GWPs are not listed in Table A–1 of Subpart A of this part, use either the default GWP specified below or your best estimate of the GWP based on the information described in § 98.123(c)(1)(vi)(A)(*3*). Use of quantitative structure activity relationships (QSARs) is an acceptable method for determining GWPs in situations where pure standards of the ''target'' fluorinated GHG are not available, the ''target'' fluorinated GHG cannot be isolated from gas streams, and FTIR spectra for the impurities are not available.

(i) If you choose to use a default GWP rather than your best estimate of the GWP for fluorinated GHGs whose GWPs are not listed in Table A–1 of Subpart A of this part, use a default GWP of 10,000 for fluorinated GHGs that are fully fluorinated GHGs and use a default GWP of 2000 for other fluorinated GHGs.

(ii) Provide the total annual emissions across fluorinated GHGs for the entire facility, in metric tons of CO_2e, that were calculated using the default GWP of 2000.

(iii) Provide the total annual emissions across fluorinated GHGs for the entire facility, in metric tons of CO_2e, that were calculated using the default GWP of 10,000.

(iv) Provide the total annual emissions across fluorinated GHGs for the entire facility, in metric tons of CO_2e, that were calculated using your best estimate of the GWP.

(k) *Submission of complete reporting year 2011, 2012, and 2013 GHG reports*. By March 31, 2015, you must submit annual GHG reports for reporting years 2011, 2012, and 2013 that contain the information specified in paragraphs (a) through (i) of this section. The reports must calculate CO_2e using the GWPs in Table A–1 of subpart A of this part (as in effect on January 1, 2015). Prior submission of partial reports for these reporting years under paragraph (j) of this section does not affect your obligation to submit complete reports under this paragraph.

[75 FR 74831, Dec. 1, 2010, as amended at 77 FR 51489, Aug. 24, 2012; 78 FR 71954, Nov. 29, 2013; 79 FR 73787, Dec. 11, 2014]

§ 98.127 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the dated records specified in paragraphs (a) through (l) of this section, as applicable.

(a) *Process information records*. (1) Identify all products and processes subject to this subpart. Include the unit identification as appropriate, the generic process identification reported for the process under § 98.126(a)(2)(i) through (iii), and the product with which the process is associated.

(2) Monthly and annual records, as applicable, of all analyses and calculations conducted as required under § 98.123, including the data monitored under § 98.124, and all information reported as required under § 98.126.

(3) Identify all fluorinated GHGs with emissions of 1,000 metric tons CO_2e or more from production and transformation processes, summed across the facility as a whole, and identify all fluorinated GHGs with total emissions less than 1,000 metric tons CO_2e from production and transformation processes, summed across the facility as a whole.

(4) Calculations used to determine the total GWP-weighted emissions of fluorinated GHGs by fluorinated GHG group for each process, in metric tons CO_2e.

(b) *Scoping speciation*. Retain records documenting the information collected under § 98.124(a).

(c) *Mass balance method*. Retain the following records for each process for which the mass balance method was used to estimate emissions in reporting years 2011, 2012, 2013, or 2014. If you used an element other than fluorine in the mass balance equation pursuant to the former § 98.123(b)(3) as included in paragraph 1 of Appendix A of this subpart for the former mass balance method, substitute that element for fluorine in the recordkeeping requirements of this paragraph.

(1) The data and calculations used to estimate the absolute and relative errors associated with use of the mass-balance approach.

(2) The data and calculations used to estimate the mass of fluorine emitted from the process.

(3) The data and calculations used to determine the fractions of the mass emitted consisting of each reactant (FER_d), product (FEP), and by-product (FEB_k), including the preliminary calculations in the former § 98.123(b)(8)(i).

(d) *Emission factor and emission calculation factor method*. Retain the following records for each process for which the emission factor or emission calculation factor method was used to estimate emissions.

(1) Identify all continuous process vents with emissions of fluorinated GHGs that are less than 10,000 metric tons CO_2e per year and all continuous process vents with emissions of 10,000 metric tons CO_2e per year or more. Include the data and calculation used to develop the preliminary estimate of emissions for each process vent.

(2) Identify all batch process vents.

(3) For each vent, identify the method used to develop the factor (i.e., emission factor by emissions test or emission calculation factor).

(4) The emissions test data and reports (see § 98.124(c)(5)) and the calculations used to determine the process-vent-specific emission factor, including the actual process-vent-specific emission factor, the average hourly emission rate of each fluorinated GHG from the process vent during the test and the process feed rate, process production rate, or other process activity rate during the test.

(5) The process-vent-specific emission calculation factor and the calculations used to determine the process-vent-specific emission calculation factor.

(6) The annual process production quantity or other process activity information in the appropriate units, along with the dates and time period during which the process was operating and dates and time periods the process vents are vented to the destruction device. As an alternative to date and time periods when process vents are vented to the destruction device, a facility may track dates and time periods that process vents by-pass the destruction device.

(7) Calculations used to determine annual emissions of each fluorinated GHG for each process and the total fluorinated GHG emissions for all processes, i.e., total for facility.

(e) *Destruction efficiency testing*. A fluorinated GHG production facility that destroys fluorinated GHGs and reflects this destruction in § 98.123 must retain the emissions performance testing reports (including revised reports) for each destruction device. The emissions performance testing report must contain all information and data used to derive the destruction efficiency for each fluorinated GHG whose destruction the facility reflects in § 98.123, as well as the key process and device conditions during the test. This information includes the following:

(1) Destruction efficiency (DE) determined for each fluorinated GHG whose destruction the facility reflects in § 98.123, in accordance with § 98.124(g)(1)(i) through (iv).

(2) Chemical identity of the fluorinated GHG(s) used in the performance test conducted to determine destruction efficiency, including surrogates, and information on why the surrogate is sufficient to demonstrate destruction efficiency for each fluorinated GHG, consistent with requirements in § 98.124(g)(1)(i) through (iv), vented to the destruction device.

(3) Mass flow rate of the stream containing the fluorinated GHG(s) or surrogate into the device during the test.

(4) Concentration (mass fraction) of each fluorinated GHG or surrogate in the stream flowing into the device during the test.

(5) Concentration (mass fraction) of each fluorinated GHG or surrogate at the outlet of the destruction device during the test.

(6) Mass flow rate at the outlet of the destruction device during the test.

(7) Test methods and analytical methods used to determine the mass flow rates and fluorinated GHG (or surrogate) concentrations of the streams flowing into and out of the destruction device during the test.

(8) Destruction device conditions that are normally monitored for device control, such as temperature, total mass flow rates into the device, and CO or O_2 levels.

(9) Name of all applicable Federal or State regulations that may apply to the destruction process.

(f) *Equipment leak records.* If you are subject to § 98.123(d) of this subpart, you must maintain information on the number of each type of equipment; the service of each piece of equipment (gas, light liquid, heavy liquid); the concentration of each fluorinated GHG in the stream; each piece of equipment excluded from monitoring requirement; the time period each piece of equipment was in service, and the emission calculations for each fluorinated GHG for all processes. Depending on which equipment leak monitoring approach you follow, you must maintain information for equipment on the associated screening data concentrations for greater than or equal to 10,000 ppmv and associated screening data concentrations for less than 10,000 ppmv; associated actual screening data concentrations; and associated screening data and leak rate data (i.e., bagging) used to develop a unit-specific correlation. If you developed and follow a site-specific leak detection approach, provide the records for monitoring events and the emissions estimation calculations, as appropriate, consistent with the approach for equipment leak emission estimation in your GHG Monitoring Plan.

(g) *Container heel records.* If you vent residual fluorinated GHGs from containers, maintain the following records of the measurements and calculations used to estimate emissions of residual fluorinated GHGs from containers.

(i) If you measure the contents of each container, maintain records of these measurements and the calculations used to estimate emissions of each fluorinated GHG from each container size and type.

(ii) If you develop and apply container heel factors to estimate emissions, maintain records of the measurements and calculations used to develop the heel factor for each fluorinated GHG and each container size and type and of the number of containers of each fluorinated GHG and of each container size and type returned to your facility.

(h) *Missing data records.* Where missing data have been estimated pursuant to § 98.125, you must record the reason the data were missing, the length of time the data were missing, the method used to estimate the missing data, and the estimates of those data.

(i) *All facilities.* Dated records documenting the initial and periodic calibration of all analytical equipment used to determine the concentration of fluorinated GHGs, including but not limited to gas chromatographs, gas chromatography-mass spectrometry (GC/MS), gas chromatograph-electron capture detector (GC/ECD), fourier transform infrared (FTIR), and nuclear magnetic resonance (NMR) devices, and all mass measurement equipment such as weigh scales, flowmeters, and volumetric and density measures used to measure the quantities reported

under this subpart, including the industry standards or manufacturer directions used for calibration pursuant to § 98.124(e), (f), (g), (m), and (n).

(j) GHG Monitoring Plans, as described in § 98.3(g)(5), must be completed by April 1, 2011.

(k) For fluorinated GHGs whose GWPs are not listed in Table A–1 to subpart A of this part, maintain records of the GWPs used to calculate facility-wide CO_2e emissions under § 98.127(j). Where you used your best estimate of the GWP, maintain records of the data and analysis used to develop that GWP, including the data elements at § 98.123(c)(1)(vi)(A)(*1*)through (*3*). If you have used QSARs to estimate the GWP, include information documenting the level of accuracy of the QSAR-derived GWP, including information on how the structure of the ''target'' fluorinated GHG is similar to the structures of the fluorinated GHGs used to model the radiative forcing and/or reaction rate of the ''target'' fluorinated GHG, the quality and quantity of the measurements of the radiative forcings and/or reaction rates of the fluorinated GHGs used to model these parameters for the ''target'' fluorinated GHG, any estimated uncertainties of the modeled forcings and/or reaction rates, and descriptions and results of any efforts to validate the QSAR model(s).

(l) *Verification software records.* For reporting year 2015 and thereafter, you must enter into verification software specified in § 98.5(b) the data specified in paragraphs (l)(1) through (15) of this section. The data specified in paragraphs (l)(1) through (11) must be entered for each process and each process vent, as applicable. The data specified in paragraphs (l)(1) through (15) must be entered for each fluorinated GHG, as applicable. You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (l)(1) through (15) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (l)(1) through (15) of this section.

(1) The identity of the process vent (*e.g.*, name or number assigned by the facility).

(2) The equation used to estimate emissions from the process vent (Equations L–21, L–22, L–26, or L–27).

(3) The type of process activity used to estimate emissions from the process vent (*e.g.*, product of process or reactant consumed by process) (Activity, $Activity_C$, or $Activity_U$) (Equations L–21, L–22, L–26, L–27, L–35).

(4) The quantities of the process activity used to estimate controlled and uncontrolled emissions, respectively, for the process vent, Activity, $Activity_U$, or $Activity_C$, (*e.g.* kg product) (Equations L–21, L–22, L–26, L–27, L–35).

(5) The site-specific, process-vent-specific emission factor, EF_{PV-C}, for the process vent, measured after the destruction device (kg fluorinated GHG emitted per kg activity) (Equation L–21).

(6) The site-specific, process-vent-specific emission calculation factor, ECF_{PV-U}, for the process vent, for periods not vented to destruction device (kg fluorinated GHG emitted per kg activity) (Equations L–21, L–35).

(7) The site-specific, process-vent-specific emission factor(s), EF_{PV-U}, for the process vent, measured before the destruction device (kg fluorinated GHG emitted per kg activity) (Equations L–22, L–35).

(8) The site-specific, process-vent-specific emission calculation factor for the process vent, ECF_{PV} (kg fluorinated GHG emitted per kg of activity) (Equations L–26, L–27, L–35).

(9) Destruction efficiency, DE, of each destruction device for each fluorinated GHG whose destruction the facility reflects in § 98.123, in accordance with § 98.124(g)(1)(i) through (iv) (weight fraction) (Equations L–22, L–27, L–31).

(10) Emissions of each fluorinated GHG for equipment pieces for the process, E_{ELf} (metric ton/yr) (98.123(d)(3)).

(11) The mass of the fluorinated GHG previously produced and fed into the destruction device, RE_D, (metric tons) (Equation L–31).

(12) If applicable, the heel factor, h_{fj}, calculated for each container size and type (decimal fraction) (Equation L–34).

(13) If applicable, the number of containers of size and type j returned to

the fluorinated gas production facility, N_{fj}, (Equation L–34).

(14) If applicable, the full capacity of containers of size and type j containing fluorinated GHG f, F_{fj}, (metric tons) (Equation L–34).

(15) For fluorinated GHGs that do not have a chemical-specific GWP on Table A–1 of subpart A of this part, the fluorinated GHG group of which the fluorinated GHG is a member, as applicable (to permit look-up of global warming potential, GWP_f, or GWP_i, for that fluorinated GHG in Table A–1 of subpart A of this part (Equation A–1 of subpart A of this part, Equation L–35)).

[75 FR 74831, Dec. 1, 2010, as amended at 77 FR 51490, Aug. 24, 2012; 79 FR 73788, Dec. 11, 2014]

§ 98.128 Definitions.

Except as provided in this section, all of the terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part. If a conflict exists between a definition provided in this subpart and a definition provided in subpart A, the definition in this subpart shall take precedence for the reporting requirements in this subpart.

Batch process or *batch operation* means a noncontinuous operation involving intermittent or discontinuous feed into equipment, and, in general, involves the emptying of the equipment after the batch operation ceases and prior to beginning a new operation. Addition of raw material and withdrawal of product do not occur simultaneously in a batch operation.

Batch emission episode means a discrete venting episode associated with a vessel in a process; a vessel may have more than one batch emission episode. For example, a displacement of vapor resulting from the charging of a vessel with a feed material will result in a discrete emission episode that will last through the duration of the charge and will have an average flow rate equal to the rate of the charge. If the vessel is then heated, there will also be another discrete emission episode resulting from the expulsion of expanded vapor. Other emission episodes also may occur from the same vessel and other vessels in the process, depending on process operations.

By-product means a chemical that is produced coincidentally during the production of another chemical.

Completely destroyed means destroyed with a destruction efficiency of 99.99 percent or greater.

Completely recaptured means 99.99 percent or greater of each fluorinated GHG is removed from a stream.

Continuous process or operation means a process where the inputs and outputs flow continuously throughout the duration of the process. Continuous processes are typically steady state.

Destruction device means any device used to destroy fluorinated GHG.

Destruction process means a process used to destroy fluorinated GHG in a destruction device such as a thermal incinerator or catalytic oxidizer.

Difficult-to-monitor means the equipment piece may not be monitored without elevating the monitoring personnel more than 2 meters (7 feet) above a support surface or it is not accessible in a safe manner when it is in fluorinated GHG service.

Dual mechanical seal pump and *dual mechanical seal agitator* means a pump or agitator equipped with a dual mechanical seal system that includes a barrier fluid system where the barrier fluid is not in light liquid service; each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both; and meets the following requirements:

(1) Each dual mechanical seal system is operated with the barrier fluid at a pressure that is at all times (except periods of startup, shutdown, or malfunction) greater than the pump or agitator stuffing box pressure; or

(2) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device; or

(3) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

Equipment (for the purposes of § 98.123(d) and § 98.124(f) only) means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in fluorinated GHG service for

a process subject to this subpart; and any destruction devices or closed-vent systems to which processes subject to this subpart are vented.

Fluorinated gas means any fluorinated GHG, CFC, or HCFC.

Fluorinated gas product means the product of the process, including isolated intermediates.

Fully fluorinated GHGs means fluorinated GHGs that contain only single bonds and in which all available valence locations are filled by fluorine atoms. This includes but is not limited to saturated perfluorocarbons, SF_6, NF_3, SF_5CF_3, fully fluorinated linear, branched and cyclic alkanes, fully fluorinated ethers, fully fluorinated tertiary amines, fully fluorinated aminoethers, and perfluoropolyethers.

Generically-identified process means a process that is:

(1) Identified as a production process, a transformation process where no fluorinated GHG reactant is produced at another facility, or a transformation process where one or more fluorinated GHG reactants are produced at another facility;

(2) Further identified as a reaction, distillation, or packaging process, or a combination thereof; and

(3) Tagged with a discrete identifier, such as a letter or number, that remains constant from year to year.

In fluorinated GHG service means that a piece of equipment either contains or contacts a feedstock, by-product, or product that is a liquid or gas and contains at least 5 percent by weight fluorinated GHG.

In gas and vapor service means that a piece of equipment in regulated material service contains a gas or vapor at operating conditions.

In heavy liquid service means that a piece of equipment in regulated material service is not in gas and vapor service or in light liquid service.

In light liquid service means that a piece of equipment in regulated material service contains a liquid that meets the following conditions:

(1) The vapor pressure of one or more of the compounds is greater than 0.3 kilopascals at 20 °C.

(2) The total concentration of the pure compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20 °C is equal to or greater than 20 percent by weight of the total process stream.

(3) The fluid is a liquid at operating conditions.

NOTE TO DEFINITION OF ''IN LIGHT LIQUID SERVICE'': Vapor pressures may be determined by standard reference texts or ASTM D–2879, (incorporated by reference, see § 98.7).

In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals below ambient pressure.

Isolated intermediate means a product of a process that is stored before subsequent processing. An isolated intermediate is usually a product of chemical synthesis. Storage of an isolated intermediate marks the end of a process. Storage occurs at any time the intermediate is placed in equipment used solely for storage.

Major fluorinated GHG constituent means a fluorinated GHG constituent of a fluorinated gas product that occurs in concentrations greater than 1 percent by mass.

No external shaft pump and *No external shaft agitator* means any pump or agitator that is designed with no externally actuated shaft penetrating the pump or agitator housing.

Operating scenario means any specific operation of a process and includes the information specified in paragraphs (1) through (5) of this definition for each process. A change or series of changes to any of these elements, except for paragraph (4) of this definition, constitutes a different operating scenario.

(1) A description of the process, the specific process equipment used, and the range of operating conditions for the process.

(2) An identification of related process vents, their associated emissions episodes and durations, and calculations and engineering analyses to show the annual uncontrolled fluorinated GHG emissions from the process vent.

(3) The control or destruction devices used, as applicable, including a description of operating and/or testing conditions for any associated destruction device.

(4) The process vents (including those from other processes) that are simultaneously routed to the control or destruction device(s).

(5) The applicable monitoring requirements and any parametric level that assures destruction or removal for all emissions routed to the control or destruction device.

Process means all equipment that collectively functions to produce a fluorinated gas product, including an isolated intermediate (which is also a fluorinated gas product), or to transform a fluorinated gas product. A process may consist of one or more unit operations. For the purposes of this subpart, process includes any, all, or a combination of reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a fluorinated gas product. For a continuous process, cleaning operations conducted may be considered part of the process, at the discretion of the facility. For a batch process, cleaning operations are part of the process. Ancillary activities are not considered a process or part of any process under this subpart. Ancillary activities include boilers and incinerators, chillers and refrigeration systems, and other equipment and activities that are not directly involved (i.e., they operate within a closed system and materials are not combined with process fluids) in the processing of raw materials or the manufacturing of a fluorinated gas product.

Process condenser means a condenser whose primary purpose is to recover material as an integral part of a process. All condensers recovering condensate from a process vent at or above the boiling point or all condensers in line prior to a vacuum source are considered process condensers. Typically, a primary condenser or condensers in series are considered to be integral to the process if they are capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse or for sale for fuel value, use, or reuse.

Process vent (for the purposes of this subpart only) means a vent from a process vessel or vents from multiple process vessels within a process that are manifolded together into a common header, through which a fluorinated GHG-containing gas stream is, or has the potential to be, released to the atmosphere (or the point of entry into a control device, if any). Examples of process vents include, but are not limited to, vents on condensers used for product recovery, bottoms receivers, surge control vessels, reactors, filters, centrifuges, and process tanks. Process vents do not include vents on storage tanks, wastewater emission sources, or pieces of equipment.

Typical batch means a batch process operated within a range of operating conditions that are documented in an operating scenario. Emissions from a typical batch are based on the operating conditions that result in representative emissions. The typical batch defines the uncontrolled emissions for each emission episode defined under the operating scenario.

Uncontrolled fluorinated GHG emissions means a gas stream containing fluorinated GHG which has exited the process (or process condenser or control condenser, where applicable), but which has not yet been introduced into a destruction device to reduce the mass of fluorinated GHG in the stream. If the emissions from the process are not routed to a destruction device, uncontrolled emissions are those fluorinated GHG emissions released to the atmosphere.

Unsafe-to-monitor means that monitoring personnel would be exposed to an immediate danger as a consequence of monitoring the piece of equipment. Examples of unsafe-to-monitor equipment include, but are not limited to, equipment under extreme pressure or heat.

[75 FR 74831, Dec. 1, 2010, as amended at 77 FR 51490, Aug. 24, 2012; 79 FR 73789, Dec. 11, 2014]

TABLE L–1 TO SUBPART L OF PART 98—RANGES OF EFFECTIVE DESTRUCTION EFFICIENCY

Range of Reductions
≥99%.
≥95% to <99%.
≥75% to <95%.
≥0% to <75%.

[79 FR 73789, Dec. 11, 2014]

APPENDIX A TO SUBPART L OF PART 98—MASS BALANCE METHOD FOR FLUORINATED GAS PRODUCTION

1. *Mass Balance Method for § 98.123(b)*. [Note: Numbering convention here matches original rule text, 75 FR 74774, December 1, 2010.]

(b) *Mass balance method*. Before using the mass balance approach to estimate your fluorinated GHG emissions from a process, you must ensure that the process and the equipment and methods used to measure it meet either the error limits described in this paragraph and calculated under paragraph (b)(1) of this section or the requirements specified in paragraph § 98.124(b)(8). If you choose to calculate the error limits, you must estimate the absolute and relative errors associated with using the mass balance approach on that process using Equations L–1 through L–4 of this section in conjunction with Equations L–5 through L–10 of this section. You may use the mass-balance approach to estimate emissions from the process if this calculation results in an absolute error of less than or equal to 3,000 metric tons CO_2e per year or a relative error of less than or equal to 30 percent of the estimated CO_2e fluorinated GHG emissions. If you do not meet either of the error limits or the requirements of paragraph § 98.124(b)(8), you must use the emission factor approach detailed in paragraphs (c), (d), and (e) of this section to estimate emissions from the process.

(1) *Error calculation*. To perform the calculation, you must first calculate the absolute and relative errors associated with the quantities calculated using either Equations L–7 through L–10 of this section or Equation L–17 of this section. Alternatively, you may estimate these errors based on the variability of previous process measurements (*e.g.*, the variability of measurements of stream concentrations), provided these measurements are representative of the current process and current measurement devices and techniques. Once errors have been calculated for the quantities in these equations, those errors must be used to calculate the errors in Equations L–6 and L–5 of this section. You may ignore the errors associated with Equations L–11, L–12, and L–13 of this section.

(i) Where the measured quantity is a mass, the error in the mass must be equated to the accuracy or precision (whichever is larger) of the flowmeter, scale, or combination of volumetric and density measurements at the flow rate or mass measured.

(ii) Where the measured quantity is a concentration of a stream component, the error of the concentration must be equated to the accuracy or precision (whichever is larger) with which you estimate the mean concentration of that stream component, accounting for the variability of the process, the frequency of the measurements, and the accuracy or precision (whichever is larger) of the analytical technique used to measure the concentration at the concentration measured. If the variability of process measurements is used to estimate the error, this variability shall be assumed to account both for the variability of the process and the precision of the analytical technique. Use standard statistical techniques such as the student's t distribution to estimate the error of the mean of the concentration measurements as a function of process variability and frequency of measurement.

(iii) Equation L–1 of this section provides the general formula for calculating the absolute errors of sums and differences where the sum, S, is the summation of variables measured, a, b, c, etc. (*e.g.*, S = a + b + c):

$$e_{SA} = \left[(a * e_a)^2 + (b * e_b)^2 + (c * e_c)^2\right]^{1/2} \qquad \text{(Eq. L-1)}$$

Where:

e_{SA} = Absolute error of the sum, expressed as one half of a 95 percent confidence interval.

e_a = Relative error of a, expressed as one half of a 95 percent confidence interval.

e_b = Relative error of b, expressed as one half of a 95 percent confidence interval.

e_c = Relative error of c, expressed as one half of a 95 percent confidence interval.

(iv) Equation L–2 of this section provides the general formula for calculating the relative errors of sums and differences:

$$e_{SR} = \frac{e_{SA}}{(a+b+c)} \qquad \text{(Eq. L-2)}$$

Where:

e_{SR} = Relative error of the sum, expressed as one half of a 95 percent confidence interval.

e_{SA} = Absolute error of the sum, expressed as one half of a 95 percent confidence interval.

a+b+c = Sum of the variables measured.

(v) Equation L–3 of this section provides the general formula for calculating the absolute errors of products (*e.g.*, flow rates of GHGs calculated as the product of the flow rate of the stream and the concentration of the GHG in the stream), where the product, P, is the result of multiplying the variables measured, a, b, c, etc. (*e.g.*, P = a*b*c):

$$e_{PA} = (a * b * c)\left(e_a^2 + e_b^2 + e_c^2\right)^{1/2} \quad \text{(Eq. L-3)}$$

Where:

e_{PA} = Absolute error of the product, expressed as one half of a 95 percent confidence interval.

e_a = Relative error of a, expressed as one half of a 95 percent confidence interval.

e_b = Relative error of b, expressed as one half of a 95 percent confidence interval.

e_c = Relative error of c, expressed as one half of a 95 percent confidence interval.

(vi) Equation L–4 of this section provides the general formula for calculating the relative errors of products:

$$e_{PR} = \frac{e_{PA}}{(a * b * c)} \quad \text{(Eq. L-4)}$$

Where:

e_{PR} = Relative error of the product, expressed as one half of a 95 percent confidence interval.

e_{PA} = Absolute error of the product, expressed as one half of a 95 percent confidence interval.

a*b*c = Product of the variables measured.

(vii) Calculate the absolute error of the emissions estimate in terms of CO_2e by performing a preliminary estimate of the annual CO_2e emissions of the process using the method in paragraph (b)(1)(viii) of this section. Multiply this result by the relative error calculated for the mass of fluorine emitted from the process in Equation L–6 of this section.

(viii) To estimate the annual CO_2e emissions of the process for use in the error estimate, apply the methods set forth in paragraphs (b)(2) through (7) and (b)(9) through (16) of this section to representative process measurements. If these process measurements represent less than one year of typical process activity, adjust the estimated emissions to account for one year of typical process activity. To estimate the terms FER_d, FEP, and FEB_k for use in the error estimate for Equations L–11, L–12, and L–13 of this section, you must either use emission testing, monitoring of emitted streams, and/or engineering calculations or assessments, or in the alternative assume that all fluorine is emitted in the form of the fluorinated GHG that has the highest GWP among the fluorinated GHGs that occur in more than trace concentrations in the process. To convert the fluorinated GHG emissions to CO_2e, use Equation A–1 of §98.2. For fluorinated GHGs whose GWPs are not listed in Table A–1 to subpart A of this part, use a default GWP of 2,000.

(2) The total mass of each fluorinated GHG emitted annually from each fluorinated gas production and each fluorinated GHG transformation process must be estimated by using Equation L–5 of this section.

$$E_{FGHGf} = \sum_{p=1}^{n} (E_{Rp-FGHGf} + E_{Pp-FGHGf} + E_{Bp-FGHGf}) \quad \text{(Eq. L-5)}$$

Where:

E_{FGHGf} = Total mass of each fluorinated GHG f emitted annually from production or transformation process i (metric tons).

$E_{Rp\text{-}FGHGf}$ = Total mass of fluorinated GHG reactant f emitted from production process i over the period p (metric tons, calculated in Equation L–11 of this section).

$E_{Pp\text{-}FGHGf}$ = Total mass of the fluorinated GHG product f emitted from production process i over the period p (metric tons, calculated in Equation L–12 of this section).

$E_{Bp\text{-}FGHGf}$ = Total mass of fluorinated GHG by-product f emitted from production process i over the period p (metric tons, calculated in Equation L–13 of this section).

n = Number of concentration and flow measurement periods for the year.

(3) The total mass of fluorine emitted from process i over the period p must be estimated at least monthly by calculating the difference between the total mass of fluorine in the reactant(s) (or inputs, for processes that do not involve a chemical reaction) and the total mass of fluorine in the product (or outputs, for processes that do not involve a chemical reaction), accounting for the total mass of fluorine in any destroyed or recaptured streams that contain reactants, products, or by-products (or inputs or outputs). This calculation must be performed using Equation L–6 of this section. An element other than fluorine may be used in the mass-balance equation, provided the element occurs in all of the fluorinated GHGs fed into or generated by the process. In this case, the mass fractions of the element in the reactants, products, and by-products must be calculated as appropriate for that element.

$$E_F = \sum_{1}^{v}(R_d * MFF_{Rd}) - P * MFF_P - F_D \qquad \text{(Eq. L-6)}$$

Where:

E_F = Total mass of fluorine emitted from process i over the period p (metric tons).

R_d = Total mass of the fluorine-containing reactant d that is fed into process i over the period p (metric tons).

P = Total mass of the fluorine-containing product produced by process i over the period p (metric tons).

MFF_{Rd} = Mass fraction of fluorine in reactant d, calculated in Equation L–14 of this section.

MFF_P = Mass fraction of fluorine in the product, calculated in Equation L–15 of this section.

F_D = Total mass of fluorine in destroyed or recaptured streams from process i containing fluorine-containing reactants, products, and by-products over the period p, calculated in Equation L–7 of this section.

v = Number of fluorine-containing reactants fed into process i.

(4) The mass of total fluorine in destroyed or recaptured streams containing fluorine-containing reactants, products, and by-products must be estimated at least monthly using Equation L–7 of this section unless you use the alternative approach provided in paragraph (b)(15) of this section.

$$F_D = \sum_{j=1}^{q} P_j * MFF_P + \sum_{k=1}^{u}\left[\left(\sum_{j=1}^{q} B_{kj} + \sum_{l=1}^{x} B_{kl}\right) * MFF_{Bk}\right] + \sum_{d=1}^{v}\left(\sum_{j=1}^{q} R_{dj} * MFF_{Rd}\right) \qquad \text{(Eq. L-7)}$$

Where:

F_D = Total mass of fluorine in destroyed or recaptured streams from process i containing fluorine-containing reactants, products, and by-products over the period p.

P_j = Mass of the fluorine-containing product removed from process i in stream j and destroyed over the period p (calculated in Equation L–8 or L–9 of this section).

B_{kj} = Mass of fluorine-containing by-product k removed from process i in stream j and destroyed over the period p (calculated in Equation L–8 or L–9 of this section).

B_{kl} = Mass of fluorine-containing by-product k removed from process i in stream l and recaptured over the period p.

R_{dj} = Mass of fluorine-containing reactant d removed from process i in stream j and destroyed over the period p (calculated in Equation L–8 or L–9 of this section).

MFF_{Rd} = Mass fraction of fluorine in reactant d, calculated in Equation L–14 of this section.

MFF_P = Mass fraction of fluorine in the product, calculated in Equation L–15 of this section.

MFF_{Bk} = Mass fraction of fluorine in by-product k, calculated in Equation L–16 of this section.

q = Number of streams destroyed in process i.

x = Number of streams recaptured in process i.

u = Number of fluorine-containing by-products generated in process i.

v = Number of fluorine-containing reactants fed into process i.

(5) The mass of each fluorinated GHG removed from process i in stream j and destroyed over the period p (*i.e.*, P_j, B_{kj}, or R_{dj}, as applicable) must be estimated by applying the destruction efficiency (DE) of the device that has been demonstrated for the fluorinated GHG f to fluorinated GHG f using Equation L–8 of this section:

$$M_{FGHGfj} = DE_{FGHGf} * c_{FGHGfj} * S_j \quad \text{(Eq. L-8)}$$

Where:

M_{FGHGfj} = Mass of fluorinated GHG f removed from process i in stream j and destroyed over the period p. (This may be P_j, B_{kj}, or R_{dj}, as applicable.)

DE_{FGHGf} = Destruction efficiency of the device that has been demonstrated for fluorinated GHG f in stream j (fraction).

C_{FGHGfj} = Concentration (mass fraction) of fluorinated GHG f in stream j removed from process i and fed into the destruction device over the period p. If this concentration is only a trace concentration, $c_{F-GHGfj}$ is equal to zero.

S_j = Mass removed in stream j from process i and fed into the destruction device over the period p (metric tons).

(6) The mass of each fluorine-containing compound that is not a fluorinated GHG and that is removed from process i in stream j and destroyed over the period p (*i.e.*, P_j, B_{kj}, or R_{dj}, as applicable) must be estimated using Equation L–9 of this section.

$$M_{FCgj} = c_{FCgj} * S_j \quad \text{(Eq. L-9)}$$

Where:

M_{FCgj} = Mass of non-GHG fluorine-containing compound g removed from process i in stream j and destroyed over the period p. (This may be P_j, B_{kj}, or R_{dj}, as applicable).

c_{FCgj} = Concentration (mass fraction) of non-GHG fluorine-containing compound g in stream j removed from process i and fed into the destruction device over the period p. If this concentration is only a trace concentration, c_{FCgj} is equal to zero.

S_j = Mass removed in stream j from process i and fed into the destruction device over the period p (metric tons).

(7) The mass of fluorine-containing by-product k removed from process i in stream l and recaptured over the period p must be estimated using Equation L–10 of this section:

$$B_{kl} = c_{Bkl} * S_l \quad \text{(Eq. L-10)}$$

Where:

B_{kl} = Mass of fluorine-containing by-product k removed from process i in stream l and recaptured over the period p (metric tons).

c_{Bkl} = Concentration (mass fraction) of fluorine-containing by-product k in stream l removed from process i and recaptured over the period p. If this concentration is only a trace concentration, c_{Bkl} is equal to zero.

S_l = Mass removed in stream l from process i and recaptured over the period p (metric tons).

(8) To estimate the terms FER_d, FEP, and FEB_k for Equations L–11, L–12, and L–13 of this section, you must assume that the total mass of fluorine emitted, E_F, estimated in

Equation L–6 of this section, occurs in the form of the fluorinated GHG that has the highest GWP among the fluorinated GHGs that occur in more than trace concentrations in the process unless you possess emission characterization measurements showing otherwise. These emission characterization measurements must meet the requirements in paragraph (8)(i), (ii), or (iii) of this section, as appropriate. The sum of the terms must equal 1. You must document the data and calculations that are used to speciate individual compounds and to estimate FER_d, FEP, and FEB_k. Exclude from your calculations the fluorine included in F_D. For example, exclude fluorine-containing compounds that are not fluorinated GHGs and that result from the destruction of fluorinated GHGs by any destruction devices (*e.g.*, the mass of HF created by combustion of an HFC). However, include emissions of fluorinated GHGs that survive the destruction process.

(i) If the calculations under paragraph (b)(1)(viii) of this section, or any subsequent measurements and calculations under this subpart, indicate that the process emits 25,000 metric tons CO_2e or more, estimate the emissions from each process vent, considering controls, using the methods in §98.123(c)(1). You must characterize the emissions of any process vent that emits 25,000 metric tons CO_2e or more as specified in §98.124(b)(4).

(ii) For other vents, including vents from processes that emit less than 25,000 metric tons CO_2e, you must characterize emissions as specified in §98.124(b)(5).

(iii) For fluorine emissions that are not accounted for by vent estimates, you must characterize emissions as specified in §98.124(b)(6).

(9) The total mass of fluorine-containing reactant d emitted must be estimated at least monthly based on the total fluorine emitted and the fraction that consists of fluorine-containing reactants using Equation L–11 of this section. If the fluorine-containing reactant d is a non-GHG, you may assume that FER_d is zero.

$$E_{R-ip} = \frac{FER_d * E_F}{\left(\sum_{d=1}^{v} FER_d * MFF_{Rd} + FEP * MFF_P + \sum_{k=1}^{u} FEB_k * MFF_{Bk}\right)} \quad \text{(Eq. L-11)}$$

Where:

$E_{R\text{-}ip}$ = Total mass of fluorine-containing reactant d that is emitted from process i over the period p (metric tons).

FER_d = The fraction of the mass emitted that consists of the fluorine-containing reactant d.

E_F = Total mass of fluorine emissions from process i over the period p (metric tons), calculated in Equation L–6 of this section.

FEP = The fraction of the mass emitted that consists of the fluorine-containing product.

FEB_k = The fraction of the mass emitted that consists of fluorine-containing by-product k.

MFF_{Rd} = Mass fraction of fluorine in reactant d, calculated in Equation L–14 of this section.

MFF_P = Mass fraction of fluorine in the product, calculated in Equation L–15 of this section.

MFF_{Bk} = Mass fraction of fluorine in by-product k, calculation in Equation L–16 of this section.

u = Number of fluorine-containing by-products generated in process i.

v = Number of fluorine-containing reactants fed into process i.

(10) The total mass of fluorine-containing product emitted must be estimated at least monthly based on the total fluorine emitted and the fraction that consists of fluorine-containing products using Equation L–12 of this section. If the fluorine-containing product is a non-GHG, you may assume that FEP is zero.

$$E_{P-ip} = \frac{FEP * E_F}{\left(\sum_{d=1}^{v} FER_d * MFF_{Rd} + FEP * MFF_P + \sum_{k=1}^{u} FEB_k * MFF_{Bk}\right)} \quad \text{(Eq. L-12)}$$

Where:

$E_{P\text{-}ip}$ = Total mass of fluorine-containing product emitted from process i over the period p (metric tons).

FEP = The fraction of the mass emitted that consists of the fluorine-containing product.

E_F = Total mass of fluorine emissions from process i over the period p (metric tons), calculated in Equation L–6 of this section.

FER_d = The fraction of the mass emitted that consists of fluorine-containing reactant d.

FEB_k = The fraction of the mass emitted that consists of fluorine-containing by-product k.

MFF_{Rd} = Mass fraction of fluorine in reactant d, calculated in Equation L–14 of this section.

MFF_P = Mass fraction of fluorine in the product, calculated in Equation L–15 of this section.

MFF_{Bk} = Mass fraction of fluorine in by-product k, calculation in Equation L–16 of this section.

u = Number of fluorine-containing by-products generated in process i.

v = Number of fluorine-containing reactants fed into process i.

(11) The total mass of fluorine-containing by-product k emitted must be estimated at least monthly based on the total fluorine emitted and the fraction that consists of fluorine-containing by-products using Equation L–13 of this section. If fluorine-containing by-product k is a non-GHG, you may assume that FEB_k is zero.

$$E_{Bk-ip} = \frac{FEB_k * E_F}{\left(\sum_{1}^{v} FER_d * MFF_{Rd} + FEP * MFF_P + \sum_{k=1}^{u} FEB_k * MFF_{Bk}\right)} \quad \text{(Eq. L-13)}$$

Where:

$E_{Bk\text{-}ip}$ = Total mass of fluorine-containing by-product k emitted from process i over the period p (metric tons).

FEB_k = The fraction of the mass emitted that consists of fluorine-containing by-product k.

FER_d = The fraction of the mass emitted that consists of fluorine-containing reactant d.

FEP = The fraction of the mass emitted that consists of the fluorine-containing product.

E_F = Total mass of fluorine emissions from process i over the period p (metric tons), calculated in Equation L–6 of this section.

MFF_{Rd} = Mass fraction of fluorine in reactant d, calculated in Equation L–14 of this section.

MFF_P = Mass fraction of fluorine in the product, calculated in Equation L–15 of this section.

MFF_{Bk} = Mass fraction of fluorine in by-product k, calculation in Equation L–16 of this section.

u = Number of fluorine-containing by-products generated in process i.

v = Number of fluorine-containing reactants fed into process i.

(12) The mass fraction of fluorine in reactant d must be estimated using Equation L–14 of this section:

$$MFF_{Rd} = MF_{Rd} * \frac{AW_F}{MW_{Rd}} \quad \text{(Eq. L-14)}$$

Where:

MFF_{Rd} = Mass fraction of fluorine in reactant d (fraction).

MF_{Rd} = Moles fluorine per mole of reactant d.

AW_F = Atomic weight of fluorine.

MW_{Rd} = Molecular weight of reactant d.

(13) The mass fraction of fluorine in the product must be estimated using Equation L–15 of this section:

$$MFF_P = MF_P * \frac{AW_F}{MW_P}$$

(Eq. L-15)

Where:

MFF_P = Mass fraction of fluorine in the product (fraction).

MF_P = Moles fluorine per mole of product.

AW_F = Atomic weight of fluorine.

MW_P = Molecular weight of the product produced.

(14) The mass fraction of fluorine in by-product k must be estimated using Equation L–16 of this section:

$$MFF_{Bk} = MF_{Bk} * \frac{AW_F}{MW_{Bk}}$$

(Eq. L-16)

Where:

MFF_{Bk} = Mass fraction of fluorine in the product (fraction).

MF_{Bk} = Moles fluorine per mole of by-product k.

AW_F = Atomic weight of fluorine.

MW_{Bk} = Molecular weight of by-product k.

(15) Alternative for determining the mass of fluorine destroyed or recaptured. As an alternative to using Equation L–7 of this section as provided in paragraph (b)(4) of this section, you may estimate at least monthly the total mass of fluorine in destroyed or recaptured streams containing fluorine-containing compounds (including all fluorine-containing reactants, products, and byproducts) using Equation L–17 of this section.

$$F_D = \sum_{j=1}^{q} DE_{avgj} * c_{TFj} * S_j + \sum_{l=1}^{x} c_{TFl} * S_l$$

(Eq. L-17)

Where:

F_D = Total mass of fluorine in destroyed or recaptured streams from process i containing fluorine-containing reactants, products, and by-products over the period p.

DE_{avgj} = Weighted average destruction efficiency of the destruction device for the fluorine-containing compounds identified in destroyed stream j under §98.124(b)(4)(ii) and (5)(ii) (calculated in Equation L–18 of this section)(fraction).

c_{TFj} = Concentration (mass fraction) of total fluorine in stream j removed from process i and fed into the destruction device over the period p. If this concentration is only a trace concentration, c_{TFj} is equal to zero.

S_j = Mass removed in stream j from process i and fed into the destruction device over the period p (metric tons).

c_{TFl} = Concentration (mass fraction) of total fluorine in stream l removed from process i and recaptured over the period p. If this concentration is only a trace concentration, c_{Bkl} is equal to zero.

S_l = Mass removed in stream l from process i and recaptured over the period p.

q = Number of streams destroyed in process i.

x = Number of streams recaptured in process i.

(16) Weighted average destruction efficiency. For purposes of Equation L–17 of this section, calculate the weighted average destruction efficiency applicable to a destroyed stream using Equation L–18 of this section.

$$DE_{avgj} = \frac{\sum_{f=1}^{w} DE_{FGHGf} * c_{FGHGf} * S_j * MFF_{FGHGf} + \sum_{g=1}^{y} c_{FCg} * S_j * MFF_g}{\sum_{f=1}^{w} c_{FGHGf} * S_j * MFF_{FGHGf} + \sum_{g=1}^{y} c_{FCg} * S_j * MFF_g} \quad \text{(Eq. L-18)}$$

Where:

DE_{avgj} = Weighted average destruction efficiency of the destruction device for the fluorine-containing compounds identified in destroyed stream j under 98.124(b)(4)(ii) or (b)(5)(ii), as appropriate.

DE_{FGHGf} = Destruction efficiency of the device that has been demonstrated for fluorinated GHG f in stream j (fraction).

c_{FGHGfj} = Concentration (mass fraction) of fluorinated GHG f in stream j removed from process i and fed into the destruction device over the period p. If this concentration is only a trace concentration, $c_{F-GHGfj}$ is equal to zero.

c_{FCgj} = Concentration (mass fraction) of non-GHG fluorine-containing compound g in stream j removed from process i and fed into the destruction device over the period p. If this concentration is only a trace concentration, c_{FCgj} is equal to zero.

S_j = Mass removed in stream j from process i and fed into the destruction device over the period p (metric tons).

MFF_{FGHGf} = Mass fraction of fluorine in fluorinated GHG f, calculated in Equation L–14, L–15, or L–16 of this section, as appropriate.

MFF_{FCg} = Mass fraction of fluorine in non-GHG fluorine-containing compound g, calculated in Equation L–14, L–15, or L–16 of this section, as appropriate.

w = Number of fluorinated GHGs in destroyed stream j.

y = Number of non-GHG fluorine-containing compounds in destroyed stream j.

2. *Mass Balance Method for §98.124(b)*. [Note: Numbering convention here matches original rule text, 75 FR 74774, December 1, 2010.]

(b) *Mass balance monitoring*. If you determine fluorinated GHG emissions from any process using the mass balance method under §98.123(b), you must estimate the total mass of each fluorinated GHG emitted from that process at least monthly. Only streams that contain greater than trace concentrations of fluorine-containing reactants, products, or by-products must be monitored under this paragraph. If you use an element other than fluorine in the mass-balance equation pursuant to §98.123(b)(3), substitute that element for fluorine in the monitoring requirements of this paragraph.

(1) *Mass measurements*. Measure the following masses on a monthly or more frequent basis using flowmeters, weigh scales, or a combination of volumetric and density measurements with accuracies and precisions that allow the facility to meet the error criteria in §98.123(b)(1):

(i) Total mass of each fluorine-containing product produced. Account for any used fluorine-containing product added into the production process upstream of the output measurement as directed at §§98.413(b) and 98.414(b). For each product, the mass produced used for the mass-balance calculation must be the same as the mass produced that is reported under subpart OO of this part, where applicable.

(ii) Total mass of each fluorine-containing reactant fed into the process.

(iii) The mass removed from the process in each stream fed into the destruction device.

(iv) The mass removed from the process in each recaptured stream.

(2) *Concentration measurements for use with §98.123(b)(4)*. If you use §98.123(b)(4) to estimate the mass of fluorine in destroyed or recaptured streams, measure the following concentrations at least once each calendar month during which the process is operating, on a schedule to ensure that the measurements are representative of the full range of process conditions (*e.g.*, catalyst age). Measure more frequently if this is necessary to meet the error criteria in §98.123(b)(1). Use equipment and methods (*e.g.*, gas chromatography) that comply with paragraph (e) of this section and that have an accuracy and precision that allow the facility to meet the error criteria in §98.123(b)(1). Only fluorine-containing reactants, products, and by-products that occur in a stream in greater than trace concentrations must be monitored under this paragraph.

(i) The concentration (mass fraction) of the fluorine-containing product in each stream that is fed into the destruction device.

(ii) The concentration (mass fraction) of each fluorine-containing by-product in each stream that is fed into the destruction device.

(iii) The concentration (mass fraction) of each fluorine-containing reactant in each stream that is fed into the destruction device.

(iv) The concentration (mass fraction) of each fluorine-containing by-product in each stream that is recaptured (c_{Bkl}).

(3) *Concentration measurements for use with §98.123(b)(15).* If you use §98.123(b)(15) to estimate the mass of fluorine in destroyed or recaptured streams, measure the concentrations listed in paragraphs (b)(3)(i) and (ii) of this section at least once each calendar month during which the process is operating, on a schedule to ensure that the measurements are representative of the full range of process conditions (*e.g.*, catalyst age). Measure more frequently if this is necessary to meet the error criteria in §98.123(b)(1). Use equipment and methods (*e.g.*, gas chromatography) that comply with paragraph (e) of this section and that have an accuracy and precision that allow the facility to meet the error criteria in §98.123(b)(1). Only fluorine-containing reactants, products, and by-products that occur in a stream in greater than trace concentrations must be monitored under this paragraph.

(i) The concentration (mass fraction) of total fluorine in each stream that is fed into the destruction device.

(ii) The concentration (mass fraction) of total fluorine in each stream that is recaptured.

(4) *Emissions characterization: process vents emitting 25,000 metric tons CO_2e or more.* To characterize emissions from any process vent emitting 25,000 metric tons CO_2e or more, comply with paragraphs (b)(4)(i) through (b)(4)(v) of this section, as appropriate. Only fluorine-containing reactants, products, and by-products that occur in a stream in greater than trace concentrations must be monitored under this paragraph.

(i) *Uncontrolled emissions.* If emissions from the process vent are not routed through a destruction device, sample and analyze emissions at the process vent or stack or sample and analyze emitted streams before the process vent. If the process has more than one operating scenario, you must either perform the emission characterization for each operating scenario or perform the emission characterization for the operating scenario that is expected to have the largest emissions and adjust the emission characterization for other scenarios using engineering calculations and assessments as specified in §98.123(c)(4). To perform the characterization, take three samples under conditions that are representative for the operating scenario. Measure the concentration of each fluorine-containing compound in each sample. Use equipment and methods that comply with paragraph (e) of this section. Calculate the average concentration of each fluorine-containing compound across all three samples.

(ii) *Controlled emissions using §98.123(b)(15).* If you use §98.123(b)(15) to estimate the total mass of fluorine in destroyed or recaptured streams, and if the emissions from the process vent are routed through a destruction device, characterize emissions as specified in paragraph (b)(4)(i) of this section before the destruction device. Apply the destruction efficiency demonstrated for each fluorinated GHG in the destroyed stream to that fluorinated GHG. Exclude from the characterization fluorine-containing compounds that are not fluorinated GHGs.

(iii) *Controlled emissions using §98.123(b)(4).* If you use §98.123(b)(4) to estimate the mass of fluorine in destroyed or recaptured streams, and if the emissions from the process vent are routed through a destruction device, characterize the process vent's emissions monthly (or more frequently) using the monthly (or more frequent) measurements under paragraphs (b)(1)(iii) and (b)(2)(i) through (iii) of this section. Apply the destruction efficiency demonstrated for each fluorinated GHG in the destroyed stream to that fluorinated GHG. Exclude from the characterization fluorine-containing compounds that are not fluorinated GHGs.

(iv) *Emissions characterization frequency.* You must repeat emission characterizations performed under paragraph (b)(4)(i) and (ii) of this section under paragraph (b)(4)(iv)(A) or (B) of this section, whichever occurs first:

(A) *10-year revision.* Repeat the emission characterization every 10 years. In the calculations under §98.123, apply the revised emission characterization to the process activity that occurs after the revision.

(B) *Operating scenario change that affects the emission characterization.* For planned operating scenario changes, you must estimate and compare the emission calculation factors for the changed operating scenario and for the original operating scenario whose process vent specific emission factor was measured. Use the engineering calculations and assessments specified in §98.123(c)(4). If the share of total fluorine-containing compound emissions represented by any fluorinated GHG changes under the changed operating scenario by 15 percent or more of the total, relative to the previous operating scenario (this includes the cumulative change in the emission calculation factor since the last emissions test), you must repeat the emission characterization. Perform the emission characterization before February 28 of the year that immediately follows the change. In the calculations under §98.123, apply the revised emission characterization to the process activity that occurs after the operating scenario change.

(v) *Subsequent measurements.* If a process vent with fluorinated GHG emissions less than 25,000 metric tons CO_2e, per §98.123(c)(2), is later found to have fluorinated GHG emissions of 25,000 metric tons CO_2e or greater, you must perform an emission characterization under this paragraph during the following year.

(5) *Emissions characterization: Process vents emitting less than 25,000 metric tons CO_2e.* To characterize emissions from any process vent

emitting less than 25,000 metric tons CO_2e, comply with paragraphs (b)(5)(i) through (iii) of this section, as appropriate. Only fluorine-containing reactants, products, and by-products that occur in a stream in greater than trace concentrations must be monitored under this paragraph.

(i) *Uncontrolled emissions.* If emissions from the process vent are not routed through a destruction device, emission measurements must consist of sampling and analysis of emissions at the process vent or stack, sampling and analysis of emitted streams before the process vent, previous test results, provided the tests are representative of current operating conditions of the process, or bench-scale or pilot-scale test data representative of the process operating conditions.

(ii) *Controlled emissions using § 98.123(b)(15).* If you use § 98.123(b)(15) to estimate the total mass of fluorine in destroyed or recaptured streams, and if the emissions from the process vent are routed through a destruction device, characterize emissions as specified in paragraph (b)(5)(i) of this section before the destruction device. Apply the destruction efficiency demonstrated for each fluorinated GHG in the destroyed stream to that fluorinated GHG. Exclude from the characterization fluorine-containing compounds that are not fluorinated GHGs.

(iii) *Controlled emissions using § 98.123(b)(4).* If you use § 98.123(b)(4) to estimate the mass of fluorine in destroyed or recaptured streams, and if the emissions from the process vent are routed through a destruction device, characterize the process vent's emissions monthly (or more frequently) using the monthly (or more frequent) measurements under paragraphs (b)(1)(iii) and (b)(2)(i) through (iii) of this section. Apply the destruction efficiency demonstrated for each fluorinated GHG in the destroyed stream to that fluorinated GHG. Exclude from the characterization fluorine-containing compounds that are not fluorinated GHGs.

(6) *Emissions characterization: Emissions not accounted for by process vent estimates.* Calculate the weighted average emission characterization across the process vents before any destruction devices. Apply the weighted average emission characterization for all the process vents to any fluorine emissions that are not accounted for by process vent estimates.

(7) *Impurities in reactants.* If any fluorine-containing impurity is fed into a process along with a reactant (or other input) in greater than trace concentrations, this impurity shall be monitored under this section and included in the calculations under § 98.123 in the same manner as reactants fed into the process, fed into the destruction device, recaptured, or emitted, except the concentration of the impurity in the mass fed into the process shall be measured, and the mass of the impurity fed into the process shall be calculated as the product of the concentration of the impurity and the mass fed into the process. The mass of the reactant fed into the process may be reduced to account for the mass of the impurity.

(8) *Alternative to error calculation.* As an alternative to calculating the relative and absolute errors associated with the estimate of emissions under § 98.123(b), you may comply with the precision, accuracy, measurement and calculation frequency, and fluorinated GHG throughput requirements of paragraph (b)(8)(i) through (iv) of this section.

(i) *Mass measurements.* Measure the masses specified in paragraph (b)(1) of this section using flowmeters, weigh scales, or a combination of volumetric and density measurements with accuracies and precisions of ±0.2 percent of full scale or better.

(ii) *Concentration measurements.* Measure the concentrations specified in paragraph (b)(2) or (3) of this section, as applicable, using analytical methods with accuracies and precisions of ±10 percent or better.

(iii) *Measurement and calculation frequency.* Perform the mass measurements specified in paragraph (b)(1) of this section and the concentration measurements specified in paragraph (b)(2) or (3) of this section, as applicable, at least weekly, and calculate emissions at least weekly.

(iv) *Fluorinated-GHG throughput limit.* You may use the alternative to the error calculation specified in paragraph (b)(8) of this section only if the total annual CO_2-equivalent fluorinated GHG throughput of the process is 500,000 $mtCO_2e$ or less. The total throughput is the sum of the masses of the fluorinated GHG reactants, products, and by-products fed into and generated by the process. To convert these masses to CO_2e, use Equation A–1 of § 98.2. For fluorinated GHGs whose GWPs are not listed in Table A–1 to subpart A of this part, use a default GWP of 2,000.

[79 FR 73789, Dec. 11, 2014]

Subpart M [Reserved]

Subpart N—Glass Production

§ 98.140 Definition of the source category.

(a) A glass manufacturing facility manufactures flat glass, container glass, pressed and blown glass, or wool fiberglass by melting a mixture of raw materials to produce molten glass and form the molten glass into sheets, containers, fibers, or other shapes. A glass manufacturing facility uses one or more continuous glass melting furnaces to produce glass.

(b) A glass melting furnace that is an experimental furnace or a research and development process unit is not subject to this subpart.

§ 98.141 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a glass production process and the facility meets the requirements of either § 98.2(a)(1) or (2).

§ 98.142 GHGs to report.

You must report:

(a) CO_2 process emissions from each continuous glass melting furnace.

(b) CO_2 combustion emissions from each continuous glass melting furnace.

(c) CH_4 and N_2O combustion emissions from each continuous glass melting furnace. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

(d) CO_2, CH_4, and N_2O emissions from each stationary fuel combustion unit other than continuous glass melting furnaces. You must report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

§ 98.143 Calculating GHG emissions.

You must calculate and report the annual process CO_2 emissions from each continuous glass melting furnace using the procedure in paragraphs (a) through (c) of this section.

(a) For each continuous glass melting furnace that meets the conditions specified in § 98.33(b)(4)(ii) or (iii), you must calculate and report under this subpart the combined process and combustion CO_2 emissions by operating and maintaining a CEMS to measure CO_2 emissions according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) For each continuous glass melting furnace that is not subject to the requirements in paragraph (a) of this section, calculate and report the process and combustion CO_2 emissions from the glass melting furnace by using either the procedure in paragraph (b)(1) of this section or the procedure in paragraph (b)(2) of this section, except as specified in paragraph (c) of this section.

(1) Calculate and report under this subpart the combined process and combustion CO_2 emissions by operating and maintaining a CEMS to measure CO_2 emissions according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(2) Calculate and report the process and combustion CO_2 emissions separately using the procedures specified in paragraphs (b)(2)(i) through (b)(2)(vi) of this section.

(i) For each carbonate-based raw material charged to the furnace, obtain from the supplier of the raw material the carbonate-based mineral mass fraction.

(ii) Determine the quantity of each carbonate-based raw material charged to the furnace.

(iii) Apply the appropriate emission factor for each carbonate-based raw material charged to the furnace, as shown in Table N–1 to this subpart.

(iv) Use Equation N–1 of this section to calculate process mass emissions of CO_2 for each furnace:

$$E_{CO2} = \sum_{i=1}^{n} MF_i \bullet \left(M_i \bullet \frac{2000}{2205} \right) \bullet EF_i \bullet F_i \qquad \text{(Eq. N-1)}$$

Where:

E_{CO2} = Process emissions of CO_2 from the furnace (metric tons).

n = Number of carbonate-based raw materials charged to furnace.

MF_i = Annual average decimal mass fraction of carbonate-based mineral i in carbonate-based raw material i.

M_i = Annual amount of carbonate-based raw material i charged to furnace (tons).

2000/2205 = Conversion factor to convert tons to metric tons.

EF_i = Emission factor for carbonate-based raw material i (metric ton CO_2 per metric ton carbonate-based raw material as shown in Table N–1 to this subpart).

F_i = Decimal fraction of calcination achieved for carbonate-based raw material i, assumed to be equal to 1.0.

(v) You must calculate the total process CO_2 emissions from continuous glass melting furnaces at the facility using Equation N–2 of this section:

$$CO_2 = \sum_{i=1}^{k} E_{CO_2 i} \qquad \text{(Eq. N-2)}$$

Where:

CO_2 = Annual process CO_2 emissions from glass manufacturing facility (metric tons).

E_{CO2i} = Annual CO_2 emissions from glass melting furnace i (metric tons).

k = Number of continuous glass melting furnaces.

(vi) Calculate and report under subpart C of this part (General Stationary Fuel Combustion Sources) the combustion CO_2 emissions in the glass furnace according to the applicable requirements in subpart C.

(c) As an alternative to data provided by the raw material supplier, a value of 1.0 can be used for the mass fraction (MF_i) of carbonate-based mineral i in Equation N–1 of this section.

[75 FR 74831, Dec. 1, 2010, as amended at 78 FR 71954, Nov. 29, 2013]

§ 98.144 Monitoring and QA/QC requirements.

(a) You must measure annual amounts of carbonate-based raw materials charged to each continuous glass melting furnace from monthly measurements using plant instruments used for accounting purposes, such as calibrated scales or weigh hoppers. Total annual mass charged to glass melting furnaces at the facility shall be compared to records of raw material purchases for the year.

(b) You must measure carbonate-based mineral mass fractions at least annually to verify the mass fraction data provided by the supplier of the raw material; such measurements shall be based on sampling and chemical analysis using consensus standards that specify X-ray fluorescence. For measurements made in years prior to the emissions reporting year 2014, you may also use ASTM D3682–01 (Reapproved 2006) Standard Test Method for Major and Minor Elements in Combustion Residues from Coal Utilization Processes (incorporated by reference, *see* § 98.7) or ASTM D6349–09 Standard Test Method for Determination of Major and Minor Elements in Coal, Coke, and Solid Residues from Combustion of Coal and Coke by Inductively Coupled Plasma—Atomic Emission Spectrometry (incorporated by reference, *see* § 98.7).

(c) You must determine the annual average mass fraction for the carbonate-based mineral in each carbonate-based raw material by calculating an arithmetic average of the monthly data obtained from raw material suppliers or sampling and chemical analysis.

(d) You must determine on an annual basis the calcination fraction for each carbonate consumed based on sampling and chemical analysis using an industry consensus standard. This chemical analysis must be conducted using an x-ray fluorescence test or other enhanced testing method published by an industry consensus standards organization (e.g., ASTM, ASME, API, etc.).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66462, Oct. 28, 2010; 78 FR 71954, Nov. 29, 2013]

§ 98.145 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required (e.g., carbonate raw materials consumed, etc.). If the monitoring and quality assurance procedures in § 98.144 cannot be followed and data is missing, you must use the most appropriate of the missing data procedures in paragraphs (a) and (b) of this section. You must document and keep records of the procedures used for all such missing value estimates.

(a) For missing data on the monthly amounts of carbonate-based raw materials charged to any continuous glass

melting furnace use the best available estimate(s) of the parameter(s), based on all available process data or data used for accounting purposes, such as purchase records.

(b) For missing data on the mass fractions of carbonate-based minerals in the carbonate-based raw materials assume that the mass fraction of each carbonate based mineral is 1.0.

§ 98.146 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) and (b) of this section, as applicable.

(a) If a CEMS is used to measure CO_2 emissions, then you must report under this subpart the relevant information required under § 98.36 for the Tier 4 Calculation Methodology and the following information specified in paragraphs (a)(1) and (2) of this section:

(1) Annual quantity of each carbonate-based raw material charged to each continuous glass melting furnace and for all furnaces combined (tons).

(2) Annual quantity of glass produced by each glass melting furnace and by all furnaces combined (tons).

(b) If a CEMS is not used to determine CO_2 emissions from continuous glass melting furnaces, and process CO_2 emissions are calculated according to the procedures specified in § 98.143(b), then you must report the following information as specified in paragraphs (b)(1) through (b)(9) of this section:

(1) Annual process emissions of CO_2 (metric tons) for each continuous glass melting furnace and for all furnaces combined.

(2) Annual quantity of each carbonate-based raw material charged (tons) to all furnaces combined.

(3) Annual quantity of glass produced (tons) from each continuous glass melting furnace and from all furnaces combined.

(4) [Reserved]

(5) Results of all tests used to verify the carbonate-based mineral mass fraction for each carbonate-based raw material charged to a continuous glass melting furnace, as specified in paragraphs (b)(5)(i) through (b)(5)(iii) of this section.

(i) Date of test.

(ii) Method(s) and any variations used in the analyses.

(iii) Mass fraction of each sample analyzed.

(6) [Reserved]

(7) Method used to determine decimal fraction of calcination.

(8) Total number of continuous glass melting furnaces.

(9) The number of times in the reporting year that missing data procedures were followed to measure monthly quantities of carbonate-based raw materials or mass fraction of the carbonate-based minerals for any continuous glass melting furnace (months).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66462, Oct. 28, 2010; 78 FR 71954, Nov. 29, 2013; 79 FR 63786, Oct. 24, 2014]

§ 98.147 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain the records listed in paragraphs (a) through (d) of this section.

(a) If a CEMS is used to measure emissions, then you must retain the records required under § 98.37 for the Tier 4 Calculation Methodology and the following information specified in paragraphs (a)(1) and (a)(2) of this section:

(1) Monthly glass production rate for each continuous glass melting furnace (tons).

(2) Monthly amount of each carbonate-based raw material charged to each continuous glass melting furnace (tons).

(b) If process CO_2 emissions are calculated according to the procedures specified in § 98.143(b), you must retain the records in paragraphs (b)(1) through (b)(5) of this section.

(1) Monthly glass production rate for each continuous glass melting furnace (metric tons).

(2) Monthly amount of each carbonate-based raw material charged to each continuous glass melting furnace (metric tons).

(3) Data on carbonate-based mineral mass fractions provided by the raw material supplier for all raw materials consumed annually and included in calculating process emissions in Equation N–1 of this subpart.

(4) Results of all tests used to verify the carbonate-based mineral mass fraction for each carbonate-based raw material charged to a continuous glass melting furnace, including the data specified in paragraphs (b)(4)(i) through (b)(4)(v) of this section.

(i) Date of test.

(ii) Method(s), and any variations of the methods, used in the analyses.

(iii) Mass fraction of each sample analyzed.

(iv) Relevant calibration data for the instrument(s) used in the analyses.

(v) Name and address of laboratory that conducted the tests.

(5) The decimal fraction of calcination achieved for each carbonate-based raw material, if a value other than 1.0 is used to calculate process mass emissions of CO_2.

(c) All other documentation used to support the reported GHG emissions.

(d) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (d)(1) through (3) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (d)(1) through (3) of this section.

(1) Annual average decimal mass fraction of carbonate-based mineral in each carbonate-based raw material for each continuous glass melting furnace (specify the default value, if used, or the value determined according to § 98.144) (percentage, expressed as a decimal) (Equation N–1 of § 98.143).

(2) Annual amount of each carbonate-based raw material charged to each continuous glass melting furnace (tons) (Equation N–1).

(3) Decimal fraction of each calcination achieved for carbonate-based raw material for each continuous glass melting furnace (specify the default value, if used, or the value determined according to § 98.144) (percentage, expressed as a decimal) (Equation N–1).

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71954, Nov. 29, 2013; 79 FR 63786, Oct. 24, 2014]

§ 98.148 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE N–1 TO SUBPART N OF PART 98—CO_2 EMISSION FACTORS FOR CARBONATE-BASED RAW MATERIALS

Carbonate-based raw material—mineral	CO_2 emission factor [a]
Limestone—$CaCO_3$	0.440
Dolomite—$CaMg(CO_3)_2$	0.477
Sodium carbonate/soda ash—Na_2CO_3	0.415
Barium carbonate—$BaCO_3$	0.223
Potassium carbonate—K_2CO_3	0.318
Lithium carbonate (Li_2CO_3)	0.596
Strontium carbonate ($SrCO_3$)	0.298

[a] Emission factors in units of metric tons of CO_2 emitted per metric ton of carbonate-based raw material charged to the furnace.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66462 , Oct. 28, 2010]

Subpart O—HCFC–22 Production and HFC–23 Destruction

§ 98.150 Definition of the source category.

The HCFC–22 production and HFC–23 destruction source category consists of HCFC–22 production processes and HFC–23 destruction processes.

(a) An HCFC–22 production process produces HCFC–22 (chlorodifluoromethane, or $CHClF_2$) from chloroform ($CHCl_3$) and hydrogen fluoride (HF).

(b) An HFC–23 destruction process is any process in which HFC–23 undergoes destruction. An HFC–23 destruction process may or may not be co-located with an HCFC–22 production process at the same facility.

§ 98.151 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an HCFC–22 production or HFC–23 destruction process and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.152 GHGs to report.

(a) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, CH_4, and N_2O from each stationary combustion unit following the requirements of subpart C.

(b) You must report HFC–23 emissions from HCFC–22 production processes and HFC–23 destruction processes.

§ 98.153 Calculating GHG emissions.

(a) The mass of HFC–23 generated from each HCFC–22 production process shall be estimated by using one of two methods, as applicable:

(1) Where the mass flow of the combined stream of HFC–23 and another reaction product (e.g., HCl) is measured, multiply the weekly (or more frequent) HFC–23 concentration measurement (which may be the average of more frequent concentration measurements) by the weekly (or more frequent) mass flow of the combined stream of HFC–23 and the other product. To estimate annual HFC–23 production, sum the weekly (or more frequent) estimates of the quantities of HFC–23 produced over the year. This calculation is summarized in Equation O–1 of this section:

$$G_{23} = \sum_{p=1}^{n} c_{23} * F_p * 10^{-3} \qquad \text{(Eq. O-1)}$$

Where:

G_{23} = Mass of HFC–23 generated annually (metric tons).

c_{23} = Fraction HFC–23 by weight in HFC–23/other product stream.

F_p = Mass flow of HFC–23/other product stream during the period p (kg).

p = Period over which mass flows and concentrations are measured.

n = Number of concentration and flow measurement periods for the year.

10^{-3} = Conversion factor from kilograms to metric tons.

(2) Where the mass of only a reaction product other than HFC–23 (either HCFC–22 or HCl) is measured, multiply the ratio of the weekly (or more frequent) measurement of the HFC–23 concentration and the weekly (or more frequent) measurement of the other product concentration by the weekly (or more frequent) mass produced of the other product. To estimate annual HFC–23 production, sum the weekly (or more frequent) estimates of the quantities of HFC–23 produced over the year. This calculation is summarized in Equation O–2 of this section, assuming that the other product is HCFC–22. If the other product is HCl, HCl may be substituted for HCFC–22 in Equations O–2 and O–3 of this section.

$$G_{23} = \sum_{p=1}^{n} \left(\frac{c_{23}}{c_{22}} \right) * P_{22} * 10^{-3} \qquad \text{(Eq. O-2)}$$

Where:

G_{23} = Mass of HFC–23 generated annually (metric tons).

c_{23} = Fraction HFC–23 by weight in HCFC–22/HFC–23 stream.

c_{22} = Fraction HCFC–22 by weight in HCFC–22/HFC–23 stream.

P_{22} = Mass of HCFC–22 produced over the period p (kg), calculated using Equation O–3 of this section.

p = Period over which masses and concentrations are measured.

n = Number of concentration and mass measurement periods for the year.

10^{-3} = Conversion factor from kilograms to metric tons.

(b) The mass of HCFC–22 produced over the period p shall be estimated by using Equation O–3 of this section:

$$P_{22} = LF * \left(O_{22} - U_{22} \right) \qquad \text{(Eq. O-3)}$$

Where:

P_{22} = Mass of HCFC–22 produced over the period p (kg).

O_{22} = mass of HCFC–22 that is measured coming out of the Production process over the period p (kg).

U_{22} = Mass of used HCFC–22 that is added to the production process upstream of the output measurement over the period p (kg).

LF = Factor to account for the loss of HCFC–22 upstream of the measurement. The value for LF shall be determined pursuant to § 98.154(e).

(c) For HCFC–22 production facilities that do not use a destruction device or that have a destruction device that is not directly connected to the HCFC–22 production equipment, HFC–23 emissions shall be estimated using Equation O–4 of this section:

$$E_{23} = G_{23} - \left(S_{23} + OD_{23} + D_{23} + I_{23} \right) \qquad \text{(Eq. O-4)}$$

Where:

E_{23} = Mass of HFC–23 emitted annually (metric tons).

G_{23} = Mass of HFC–23 generated annually (metric tons).

S_{23} = Mass of HFC–23 sent off site for sale annually (metric tons).

OD_{23} = Mass of HFC–23 sent off site for destruction (metric tons).

D_{23} = Mass of HFC–23 destroyed on site (metric tons).

I_{23} = Increase in HFC–23 inventory = HFC–23 in storage at end of year—HFC–23 in storage at beginning of year (metric tons).

(d) For HCFC–22 production facilities that use a destruction device connected to the HCFC–22 production equipment, HFC–23 emissions shall be estimated using Equation O–5 of this section:

$$E_{23} = E_L + E_{PV} + E_D \qquad \text{(Eq. O-5)}$$

Where:

E_{23} = Mass of HFC–23 emitted annually (metric tons).

E_L = Mass of HFC–23 emitted annually from equipment leaks, calculated using Equation O–6 of this section (metric tons).

E_{PV} = Mass of HFC–23 emitted annually from process vents, calculated using Equation O–7 of this section (metric tons).

E_D = Mass of HFC–23 emitted annually from destruction device (metric tons), calculated using Equation O–8 of this section.

(1) The mass of HFC–23 emitted annually from equipment leaks (for use in Equation O–5 of this section) shall be estimated by using Equation O–6 of this section:

$$E_L = \sum_{p=1}^{n} \sum_{t} c_{23} * \left(F_{Gt} * N_{Gt} + F_{Lt} * N_{Lt}\right) * 10^{-3} \qquad \text{(Eq. O-6)}$$

Where:

E_L = Mass of HFC–23 emitted annually from equipment leaks (metric tons).

c_{23} = Fraction HFC–23 by weight in the stream(s) in the equipment.

F_{Gt} = The applicable leak rate specified in Table O–1 of this subpart for each source of equipment type and service t with a screening value greater than or equal to 10,000 ppmv (kg/hr/source).

N_{Gt} = The number of sources of equipment type and service t with screening values greater than or equal to 10,000 ppmv as determined according to § 98.154(i).

F_{Lt} = The applicable leak rate specified in Table O–1 of this subpart for each source of equipment type and service t with a screening value of less than 10,000 ppmv (kg/hr/source).

N_{Lt} = The number of sources of equipment type and service t with screening values less than 10,000 ppmv as determined according to § 98.154(j).

p = One hour.

n = Number of hours during the year during which equipment contained HFC–23.

t = Equipment type and service as specified in Table O–1 of this subpart.

10^{-3} = Factor converting kg to metric tons.

(2) The mass of HFC–23 emitted annually from process vents (for use in Equation O–5 of this section) shall be estimated by using Equation O–7 of this section:

$$E_{PV} = \sum_{p=1}^{n} ER_T * \left(\frac{PR_p}{PR_T}\right) * l_p * 10^{-3} \qquad \text{(Eq. O-7)}$$

Where:

E_{PV} = Mass of HFC–23 emitted annually from process vents (metric tons).

ER_T = The HFC–23 emission rate from the process vents during the period of the most recent test (kg/hr).

PR_p = The HCFC–22 production rate during the period p (kg/hr).

PR_T = The HCFC–22 production rate during the most recent test period (kg/hr).

l_p = The length of the period p (hours).

10^{-3} = Factor converting kg to metric tons.

n = The number of periods in a year.

(3) The total mass of HFC–23 emitted from destruction devices shall be estimated by using Equation O–8 of this section:

$$E_D = F_D - D_{23} \qquad \text{(Eq. O-8)}$$

Where:

E_D = Mass of HFC–23 emitted annually from the destruction device (metric tons).

F_D = Mass of HFC–23 fed into the destruction device annually (metric tons).

D_{23} = Mass of HFC–23 destroyed annually (metric tons).

(4) For facilities that destroy HFC–23, the total mass of HFC–23 destroyed shall be estimated by using Equation O–9 of this section:

$$D_{23} = F_D * DE \qquad \text{(Eq. O-9)}$$

Where:

D_{23}. = Mass of HFC–23 destroyed annually (metric tons).

F_D = Mass of HFC–23 fed into the destruction device annually (metric tons).

DE = Destruction Efficiency of the destruction device (fraction).

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71955, Nov. 29, 2013]

§ 98.154 Monitoring and QA/QC requirements.

These requirements apply to measurements that are reported under this subpart or that are used to estimate reported quantities pursuant to § 98.153.

(a) The concentrations (fractions by weight) of HFC–23 and HCFC–22 in the product stream shall be measured at least weekly using equipment and methods (e.g., gas chromatography) with an accuracy and precision of 5 percent or better at the concentrations of the process samples.

(b) The mass flow of the product stream containing the HFC–23 shall be measured at least weekly using weigh scales, flowmeters, or a combination of volumetric and density measurements with an accuracy and precision of 1.0 percent of full scale or better.

(c) The mass of HCFC–22 or HCl coming out of the production process shall be measured at least weekly using weigh scales, flowmeters, or a combination of volumetric and density measurements with an accuracy and precision of 1.0 percent of full scale or better.

(d) The mass of any used HCFC–22 added back into the production process upstream of the output measurement in paragraph (c) of this section shall be measured (when being added) using flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of 1.0 percent of full scale or better. If the mass in paragraph (c) of this section is measured by weighing containers that include returned heels as well as newly produced fluorinated GHGs, the returned heels shall be considered used fluorinated HCFC–22 for purposes of this paragraph (d) of this section and § 98.153(b).

(e) The loss factor LF in Equation O–3 of this subpart for the mass of HCFC–22 produced shall have the value 1.015 or another value that can be demonstrated, to the satisfaction of the Administrator, to account for losses of HCFC–22 between the reactor and the point of measurement at the facility where production is being estimated.

(f) The mass of HFC–23 sent off site for sale shall be measured at least weekly (when being packaged) using flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of 1.0 percent of full scale or better.

(g) The mass of HFC–23 sent off site for destruction shall be measured at least weekly (when being packaged) using flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of 1.0 percent of full scale or better. If the measured mass includes more than trace concentrations of materials other than HFC–23, the concentration of the fluorinated GHG shall be measured at least weekly using equipment and methods (e.g., gas chromatography) with an accuracy and precision of 5 percent or better at the concentrations of the process samples. This concentration (mass fraction) shall be multiplied by the mass measurement to obtain the mass of the HFC–23 sent to another facility for destruction.

(h) The masses of HFC–23 in storage at the beginning and end of the year shall be measured using flowmeters,

weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of 1.0 percent of full scale or better.

(i) The number of sources of equipment type t with screening values greater than or equal to 10,000 ppmv shall be determined using EPA Method 21 at 40 CFR part 60, appendix A–7, and defining a leak as follows:

(1) A leak source that could emit HFC–23, and

(2) A leak source at whose surface a concentration of fluorocarbons equal to or greater than 10,000 ppm is measured.

(j) The number of sources of equipment type t with screening values less than 10,000 ppmv shall be the difference between the number of leak sources of equipment type t that could emit HFC–23 and the number of sources of equipment type t with screening values greater than or equal to 10,000 ppmv as determined under paragraph (i) of this section.

(k) The mass of HFC–23 emitted from process vents shall be estimated at least monthly by incorporating the results of the most recent emissions test into Equation O–7 of this subpart. HCFC–22 production facilities that use a destruction device connected to the HCFC–22 production equipment shall conduct emissions tests at process vents at least once every five years or after significant changes to the process. Emissions tests shall be conducted in accordance with EPA Method 18 at 40 CFR part 60, appendix A–6, under conditions that are typical for the production process at the facility. The sensitivity of the tests shall be sufficient to detect an emission rate that would result in annual emissions of 200 kg of HFC–23 if sustained over one year.

(l) For purposes of Equation O–9 of this subpart, the destruction efficiency must be equated to the destruction efficiency determined during a new or previous performance test of the destruction device. HFC–23 destruction facilities shall conduct annual measurements of HFC–23 concentrations at the outlet of the destruction device in accordance with EPA Method 18 at 40 CFR part 60, appendix A–6. Three samples shall be taken under conditions that are typical for the production process and destruction device at the facility, and the average concentration of HFC–23 shall be determined. The sensitivity of the concentration measurement shall be sufficient to detect an outlet concentration equal to or less than the outlet concentration determined in the destruction efficiency performance test. If the concentration measurement indicates that the HFC–23 concentration is less than or equal to that measured during the performance test that is the basis for the destruction efficiency, continue to use the previously determined destruction efficiency. If the concentration measurement indicates that the HFC–23 concentration is greater than that measured during the performance test that is the basis for the destruction efficiency, facilities shall either:

(1) Substitute the higher HFC–23 concentration for that measured during the destruction efficiency performance test and calculate a new destruction efficiency, or

(2) Estimate the mass emissions of HFC–23 from the destruction device based on the measured HFC–23 concentration and volumetric flow rate determined by measurement of volumetric flow rate using EPA Method 2, 2A, 2C,2D, or 2F at 40 CFR part 60, appendix A–1, or Method 26 at 40 CFR part 60, appendix A–2. Determine the mass rate of HFC–23 into the destruction device by measuring the HFC–23 concentration and volumetric flow rate at the inlet or by a metering device for HFC–23 sent to the device. Determine a new destruction efficiency based on the mass flow rate of HFC–23 into and out of the destruction device.

(m) HCFC–22 production facilities shall account for HFC–23 generation and emissions that occur as a result of startups, shutdowns, and malfunctions, either recording HFC–23 generation and emissions during these events, or documenting that these events do not result in significant HFC–23 generation and/or emissions.

(n) The mass of HFC–23 fed into the destruction device shall be measured at least weekly using flow meters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of 1.0 percent of full scale or better. If the measured

mass includes more than trace concentrations of materials other than HFC–23, the concentrations of the HFC–23 shall be measured at least weekly using equipment and methods (e.g., gas chromatography) with an accuracy and precision of 5 percent or better at the concentrations of the process samples. This concentration (mass fraction) shall be multiplied by the mass measurement to obtain the mass of the HFC–23 destroyed.

(o) In their estimates of the mass of HFC–23 destroyed, HFC–23 destruction facilities shall account for any temporary reductions in the destruction efficiency that result from any startups, shutdowns, or malfunctions of the destruction device, including departures from the operating conditions defined in State or local permitting requirements and/or destruction device manufacturer specifications.

(p) Calibrate all flow meters, weigh scales, and combinations of volumetric and density measures using NIST-traceable standards and suitable methods published by a consensus standards organization (e.g., ASTM, ASME, ISO, or others). Recalibrate all flow meters, weigh scales, and combinations of volumetric and density measures at the minimum frequency specified by the manufacturer.

(q) All gas chromatographs used to determine the concentration of HFC–23 in process streams shall be calibrated at least monthly through analysis of certified standards (or of calibration gases prepared from a high-concentration certified standard using a gas dilution system that meets the requirements specified in Method 205 at 40 CFR part 51, appendix M) with known HFC–23 concentrations that are in the same range (fractions by mass) as the process samples.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66462, Oct. 28, 2010; 78 FR 71955, Nov. 29, 2013]

§ 98.155 Procedures for estimating missing data.

(a) A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable (e.g., if a meter malfunctions during unit operation or if a required process sample is not taken), a substitute data value for the missing parameter shall be used in the calculations, according to the following requirements:

(1) For each missing value of the HFC–23 or HCFC–22 concentration, the substitute data value shall be the arithmetic average of the quality-assured values of that parameter immediately preceding and immediately following the missing data incident. If, for a particular parameter, no quality-assured data are available prior to the missing data incident, the substitute data value shall be the first quality-assured value obtained after the missing data period.

(2) For each missing value of the product stream mass flow or product mass, the substitute value of that parameter shall be a secondary product measurement where such a measurement is available. If that measurement is taken significantly downstream of the usual mass flow or mass measurement (e.g., at the shipping dock rather than near the reactor), the measurement shall be multiplied by 1.015 to compensate for losses. Where a secondary mass measurement is not available, the substitute value of the parameter shall be an estimate based on a related parameter. For example, if a flowmeter measuring the mass fed into a destruction device is rendered inoperable, then the mass fed into the destruction device may be estimated using the production rate and the previously observed relationship between the production rate and the mass flow rate into the destruction device.

§ 98.156 Data reporting requirements.

(a) In addition to the information required by § 98.3(c), the HCFC–22 production facility shall report the following information at the facility level:

(1) Annual mass of HCFC–22 produced in metric tons.

(2) [Reserved]

(3) Annual mass of reactants fed into the process in metric tons of reactant.

(4) The mass (in metric tons) of materials other than HCFC–22 and HFC–23 (i.e., unreacted reactants, HCl and other by-products) that occur in more than trace concentrations and that are permanently removed from the process.

(5) The method for tracking startups, shutdowns, and malfunctions and HFC–23 generation/emissions during these events.

(6) The names and addresses of facilities to which any HFC–23 was sent for destruction, and the quantities of HFC–23 (metric tons) sent to each.

(7)–(10) [Reserved]

(11) Annual mass of HFC–23 emitted in metric tons.

(12) Annual mass of HFC–23 emitted from equipment leaks in metric tons.

(13) Annual mass of HFC–23 emitted from process vents in metric tons.

(b) In addition to the information required by § 98.3(c), facilities that destroy HFC–23 shall report the following for each HFC–23 destruction process:

(1)–(2) [Reserved]

(3) Annual mass of HFC–23 emitted from the destruction device.

(c) Each HFC–23 destruction facility shall report the concentration (mass fraction) of HFC–23 measured at the outlet of the destruction device during the facility's annual HFC–23 concentration measurements at the outlet of the device. If the concentration of HFC–23 is below the detection limit of the measuring device, report the detection limit and that the concentration is below the detection limit.

(d) If the HFC–23 concentration measured pursuant to § 98.154(l) is greater than that measured during the performance test that is the basis for the destruction efficiency (DE), the facility shall report the following:

(1) [Reserved]

(2) Concentration (mass fraction) of HFC–23 at the outlet of the destruction device.

(3) Flow rate at the outlet of the destruction device in kg/hr.

(4) Emission rate (in kg/hr) calculated from paragraphs (d)(2) and (d)(3) of this section.

(5) [Reserved]

(e) By March 31, 2011 or within 60 days of commencing HFC–23 destruction, HFC–23 destruction facilities shall submit a one-time report including the following information for each destruction process:

(1) [Reserved]

(2) The methods used to determine destruction efficiency.

(3) The methods used to record the mass of HFC–23 destroyed.

(4) The name of other relevant federal or state regulations that may apply to the destruction process.

(5) If any changes are made that affect HFC–23 destruction efficiency or the methods used to record volume destroyed, then these changes must be reflected in a revision to this report. The revised report must be submitted to EPA within 60 days of the change.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66463, Oct. 28, 2010; 78 FR 71955, Nov. 29, 2013; 79 FR 63786, Oct. 24, 2014]

§ 98.157 Records that must be retained.

(a) In addition to the data required by § 98.3(g), HCFC–22 production facilities shall retain the following records:

(1) The data used to estimate HFC–23 emissions.

(2) Records documenting the initial and periodic calibration of the gas chromatographs, weigh scales, volumetric and density measurements, and flowmeters used to measure the quantities reported under this rule, including the industry standards or manufacturer directions used for calibration pursuant to § 98.154(p) and (q).

(b) In addition to the data required by § 98.3(g), the HFC–23 destruction facilities shall retain the following records:

(1) Records documenting their one-time and annual reports in § 98.156(b) through (e).

(2) Records documenting the initial and periodic calibration of the gas chromatographs, weigh scales, volumetric and density measurements, and flowmeters used to measure the quantities reported under this subpart, including the industry standard practice or manufacturer directions used for calibration pursuant to § 98.154(p) and (q).

(c) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (c)(1) through (16) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (c)(1) through (16) of this section.

(1) Factor to account for the loss of HCFC–22 upstream of the measurement over the period, determined pursuant to § 98.154(e) (Equation O–3 of § 98.153).

(2) Mass of HCFC–22 that is measured coming out of the production process over the period. A period can be one year (kg) (Equation O–3).

(3) Mass of used HCFC–22 that is added to the production process upstream of the output measurement over the period. A period can be one year (kg) (Equation O–3).

(4) Mass of HFC–23 generated annually per HCFC–22 production process (metric tons) (Equation O–4 of § 98.153).

(5) Mass of HFC–23 sent off site for sale annually per HCFC–22 production process (metric tons) (Equation O–4).

(6) Mass of HFC–23 sent off site for destruction annually per HCFC–22 production process (metric tons) (Equation O–4).

(7) Mass of HFC–23 destroyed on site per HCFC–22 production process (metric tons) (Equation O–4).

(8) HFC–23 in storage at end of year per HCFC–22 production process (metric tons) (Equation O–4).

(9) HFC–23 in storage at beginning of year per HCFC–22 production process (metric tons) (Equation O–4).

(10) Mass of HFC–23 fed into each destruction device annually per HCFC–22 production process (metric tons) (Equation O–9 of § 98.153 and the calculation method in either § 98.154(l)(1) or (2)).

(11) Identify if each destruction efficiency for each HCFC-22 production process is entered directly, or is calculated using § 98.154(l)(1), or is calculated using § 98.154(l)(2) (Equation O–9 and the calculation method in either § 98.154(l)(1) or (2)).

(12) Destruction efficiency of each destruction device for each HCFC-22 production process (decimal fraction) (Equation O–9 and the calculation method in either § 98.154(l)(1) or (2)).

(13) Volumetric flow rate at the inlet of each destruction device for each HCFC-22 production process from previous test (kg/hr) (Equation O–9 and the calculation method in either § 98.154(l)(1) or (2)).

(14) Volumetric flow rate at the inlet of destruction device during test for each HCFC-22 production process (kg/hr) (Equation O–9 and the calculation method in either § 98.154(l)(1) or (2)).

(15) Concentration of HFC-23 at the inlet of destruction device for each HCFC-22 production process from previous test (weight fraction) (Equation O–9 and the calculation method in either § 98.154(l)(1) or (2)).

(16) Concentration of HFC-23 at the inlet of destruction device for each HCFC-22 production process during test (weight fraction) (Equation O–9 and the calculation method in either § 98.154(l)(1) or (2)).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66463, Oct. 28, 2010; 79 FR 63786, Oct. 24, 2014]

§ 98.158 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE O–1 TO SUBPART O OF PART 98—EMISSION FACTORS FOR EQUIPMENT LEAKS

Equipment type	Service	Emission factor (kg/hr/source)	
		≥10,000 ppmv	<10,000 ppmv
Valves	Gas	0.0782	0.000131
Valves	Light liquid	0.0892	0.000165
Pump seals	Light liquid	0.243	0.00187
Compressor seals	Gas	1.608	0.0894
Pressure relief valves	Gas	1.691	0.0447
Connectors	All	0.113	0.0000810
Open-ended lines	All	0.01195	0.00150

Subpart P—Hydrogen Production

§ 98.160 Definition of the source category.

(a) A hydrogen production source category consists of facilities that produce hydrogen gas sold as a product to other entities.

(b) This source category comprises process units that produce hydrogen by reforming, gasification, oxidation, reaction, or other transformations of feedstocks.

(c) This source category includes merchant hydrogen production facilities located within another facility if they are not owned by, or under the direct control of, the other facility's owner and operator.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66463, Oct. 28, 2010]

§ 98.161 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a hydrogen production process and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.162 GHGs to report.

You must report:

(a) CO_2 emissions from each hydrogen production process unit.

(b) [Reserved]

(c) CO_2, CH_4, and N_2O emissions from each stationary combustion unit other than hydrogen production process units. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

(d) For CO_2 collected and transferred off site, you must follow the requirements of subpart PP of this part.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66463, Oct. 28, 2010]

§ 98.163 Calculating GHG emissions.

You must calculate and report the annual CO_2 emissions from each hydrogen production process unit using the procedures specified in either paragraph (a) or (b) of this section.

(a) *Continuous Emissions Monitoring Systems (CEMS).* Calculate and report under this subpart the CO_2 emissions by operating and maintaining CEMS according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) *Fuel and feedstock material balance approach.* Calculate and report CO_2 emissions as the sum of the annual emissions associated with each fuel and feedstock used for hydrogen production by following paragraphs (b)(1) through (3) of this section. The carbon content and molecular weight shall be obtained from the analyses conducted in accordance with § 98.164(b)(2), (b)(3), or (b)(4), as applicable, or from the missing data procedures in § 98.165. If the analyses are performed annually, then the annual value shall be used as the monthly average. If the analyses are performed more frequently than monthly, use the arithmetic average of values obtained during the month as the monthly average.

(1) *Gaseous fuel and feedstock.* You must calculate the annual CO_2 emissions from each gaseous fuel and feedstock according to Equation P–1 of this section:

$$CO_2 = \left(\sum_{n=1}^{k} \frac{44}{12} * Fdstk_n * CC_n * \frac{MW}{MVC} \right) * 0.001 \qquad \text{(Eq. P-1)}$$

Where:

CO_2 = Annual CO_2 process emissions arising from fuel and feedstock consumption (metric tons/yr).

$Fdstk_n$ = Volume or mass of the gaseous fuel or feedstock used in month n (scf (at

standard conditions of 68 °F and atmospheric pressure) or kg of fuel or feedstock).

CC_n = Average carbon content of the gaseous fuel or feedstock for month n (kg carbon per kg of fuel or feedstock).

MW_n = Average molecular weight of the gaseous fuel or feedstock for month n (kg/kg-mole). If you measure mass, the term ''MW_n/MVC'' is replaced with ''1''.

MVC = Molar volume conversion factor (849.5 scf per kg-mole at standard conditions).

k = Months in the year.

44/12 = Ratio of molecular weights, CO_2 to carbon. 0.001 = Conversion factor from kg to metric tons.

(2) *Liquid fuel and feedstock.* You must calculate the annual CO_2 emissions from each liquid fuel and feedstock according to Equation P–2 of this section:

$$CO_2 = \left(\sum_{n=1}^{k} \frac{44}{12} * Fdstk_n * CC_n \right) * 0.001 \qquad \text{(Eq. P-2)}$$

Where:

CO_2 = Annual CO_2 emissions arising from fuel and feedstock consumption (metric tons/yr).

$Fdstk_n$ = Volume or mass of the liquid fuel or feedstock used in month n (gallons or kg of fuel or feedstock).

CC_n = Average carbon content of the liquid fuel or feedstock, for month n (kg carbon per gallon or kg of fuel or feedstock).

k = Months in the year.

44/12 = Ratio of molecular weights, CO_2 to carbon.

0.001 = Conversion factor from kg to metric tons.

(3) *Solid fuel and feedstock.* You must calculate the annual CO_2 emissions from each solid fuel and feedstock according to Equation P–3 of this section:

$$CO_2 = \left(\sum_{n=1}^{k} \frac{44}{12} * Fdstk_n * CC_n \right) * 0.001 \qquad \text{(Eq. P-3)}$$

Where:

CO_2 = Annual CO_2 emissions from fuel and feedstock consumption in metric tons per month (metric tons/yr).

$Fdstk_n$ = Mass of solid fuel or feedstock used in month n (kg of fuel or feedstock).

CC_n = Average carbon content of the solid fuel or feedstock, for month n (kg carbon per kg of fuel or feedstock).

k = Months in the year.

44/12 = Ratio of molecular weights, CO_2 to carbon.

0.001 = Conversion factor from kg to metric tons.

(c) If GHG emissions from a hydrogen production process unit are vented through the same stack as any combustion unit or process equipment that reports CO_2 emissions using a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Fuel Combustion Sources), then the calculation methodology in paragraph (b) of this section shall not be used to calculate process emissions. The owner or operator shall report under this subpart the combined stack emissions according to the Tier 4 Calculation Methodology in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66463, Oct. 28, 2010; 75 FR 79157, Dec. 17, 2010; 78 FR 71955, Nov. 29, 2013]

§ 98.164 Monitoring and QA/QC requirements.

The GHG emissions data for hydrogen production process units must be quality-assured as specified in paragraphs (a) or (b) of this section, as appropriate for each process unit:

(a) If a CEMS is used to measure GHG emissions, then the facility must

comply with the monitoring and QA/QC procedures specified in § 98.34(c).

(b) If a CEMS is not used to measure GHG emissions, then you must:

(1) Calibrate all oil and gas flow meters that are used to measure liquid and gaseous feedstock volumes (except for gas billing meters) according to the monitoring and QA/QC requirements for the Tier 3 methodology in § 98.34(b)(1). Perform oil tank drop measurements (if used to quantify liquid fuel or feedstock consumption) according to § 98.34(b)(2). Calibrate all solids weighing equipment according to the procedures in § 98.3(i).

(2) Determine the carbon content and the molecular weight annually of standard gaseous hydrocarbon fuels and feedstocks having consistent composition (*e.g.*, natural gas). For other gaseous fuels and feedstocks (*e.g.*, biogas, refinery gas, or process gas), sample and analyze no less frequently than weekly to determine the carbon content and molecular weight of the fuel and feedstock.

(3) Determine the carbon content of fuel oil, naphtha, and other liquid fuels and feedstocks at least monthly, except annually for standard liquid hydrocarbon fuels and feedstocks having consistent composition, or upon delivery for liquid fuels and feedstocks delivered by bulk transport (*e.g.*, by truck or rail).

(4) Determine the carbon content of coal, coke, and other solid fuels and feedstocks at least monthly, except annually for standard solid hydrocarbon fuels and feedstocks having consistent composition, or upon delivery for solid fuels and feedstocks delivered by bulk transport (*e.g.*, by truck or rail).

(5) You must use the following applicable methods to determine the carbon content for all fuels and feedstocks, and molecular weight of gaseous fuels and feedstocks. Alternatively, you may use the results of chromatographic analysis of the fuel and feedstock, provided that the chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions; and the methods used for operation, maintenance, and calibration of the chromatograph are documented in the written monitoring plan for the unit under § 98.3(g)(5).

(i) ASTM D1945–03 Standard Test Method for Analysis of Natural Gas by Gas Chromatography (incorporated by reference, *see* § 98.7).

(ii) ASTM D1946–90 (Reapproved 2006), Standard Practice for Analysis of Reformed Gas by Gas Chromatography (incorporated by reference, *see* § 98.7).

(iii) ASTM D2013–07 Standard Practice of Preparing Coal Samples for Analysis (incorporated by reference, *see* § 98.7).

(iv) ASTM D2234/D2234M–07 Standard Practice for Collection of a Gross Sample of Coal (incorporated by reference, *see* § 98.7).

(v) ASTM D2597–94 (Reapproved 2004) Standard Test Method for Analysis of Demethanized Hydrocarbon Liquid Mixtures Containing Nitrogen and Carbon Dioxide by Gas Chromatography (incorporated by reference, *see* § 98.7).

(vi) ASTM D3176–89 (Reapproved 2002), Standard Practice for Ultimate Analysis of Coal and Coke (incorporated by reference, *see* § 98.7).

(vii) ASTM D3238–95 (Reapproved 2005), Standard Test Method for Calculation of Carbon Distribution and Structural Group Analysis of Petroleum Oils by the n-d-M Method (incorporated by reference, *see* § 98.7).

(viii) ASTM D4057–06 Standard Practice for Manual Sampling of Petroleum and Petroleum Products (incorporated by reference, *see* § 98.7).

(ix) ASTM D4177–95 (Reapproved 2005) Standard Practice for Automatic Sampling of Petroleum and Petroleum Products (incorporated by reference, *see* § 98.7).

(x) ASTM D5291–02 (Reapproved 2007), Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum Products and Lubricants (incorporated by reference, *see* § 98.7).

(xi) ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, *see* § 98.7).

(xii) ASTM D6609–08 Standard Guide for Part-Stream Sampling of Coal (incorporated by reference, see § 98.7).

(xiii) ASTM D6883–04 Standard Practice for Manual Sampling of Stationary Coal from Railroad Cars,

Barges, Trucks, or Stockpiles (incorporated by reference, *see* § 98.7).

(xiv) ASTM D7430–08ae1 Standard Practice for Mechanical Sampling of Coal (incorporated by reference, *see* § 98.7).

(xv) ASTM UOP539–97 Refinery Gas Analysis by Gas Chromatography (incorporated by reference, *see* § 98.7).

(xvi) GPA 2261–00 Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography (incorporated by reference, *see* § 98.7).

(xvii) ISO 3170: Petroleum Liquids—Manual sampling—Third Edition (incorporated by reference, *see* § 98.7).

(xviii) ISO 3171: Petroleum Liquids—Automatic pipeline sampling—Second Edition (incorporated by reference, *see* § 98.7).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79157, Dec. 17, 2010; 78 FR 71955, Nov. 29, 2013]

§ 98.165 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable (e.g., if a meter malfunctions during unit operation), a substitute data value for the missing parameter must be used in the calculations as specified in paragraphs (a), (b), and (c) of this section:

(a) For each missing value of the monthly fuel and feedstock consumption, the substitute data value must be the best available estimate of the fuel and feedstock consumption, based on all available process data (e.g., hydrogen production, electrical load, and operating hours). You must document and keep records of the procedures used for all such estimates.

(b) For each missing value of the carbon content or molecular weight of the fuel and feedstock, the substitute data value must be the arithmetic average of the quality-assured values of carbon contents or molecular weight of the fuel and feedstock immediately preceding and immediately following the missing data incident. If no quality-assured data on carbon contents or molecular weight of the fuel and feedstock are available prior to the missing data incident, the substitute data value must be the first quality-assured value for carbon contents or molecular weight of the fuel and feedstock obtained after the missing data period. You must document and keep records of the procedures used for all such estimates.

(c) For missing CEMS data, you must use the missing data procedures in § 98.35.

§ 98.166 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) or (b) of this section, as appropriate, and paragraphs (c) through (e) of this section:

(a) If a CEMS is used to measure CO_2 emissions, then you must report the relevant information required under § 98.36 for the Tier 4 Calculation Methodology and the following information in this paragraph (a):

(1) Unit identification number and annual CO_2 emissions.

(2) Annual quantity of hydrogen produced (metric tons) for each process unit.

(3) Annual quantity of ammonia produced (metric tons), if applicable, for each process unit.

(b) If a CEMS is not used to measure CO_2 emissions, then you must report the following information for each hydrogen production process unit:

(1) Unit identification number and annual CO_2 emissions.

(2) [Reserved]

(3) Annual quantity of hydrogen produced (metric tons).

(4) Annual quantity of ammonia produced, if applicable (metric tons).

(5)–(6) [Reserved]

(7) Name and annual quantity (metric tons) of each carbon-containing fuel and feedstock.

(c) Quantity of CO_2 collected and transferred off site in either gas, liquid, or solid forms, following the requirements of subpart PP of this part.

(d) Annual quantity of carbon other than CO_2 collected and transferred off site in either gas, liquid, or solid forms (kg carbon).

(e) Annual methanol production (metric tons) for each process unit.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66463, Oct. 28, 2010; 78 FR 71955, Nov. 29, 2013; 79 FR 63787, Oct. 24, 2014]

§ 98.167 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain the records specified in paragraphs (a) through (e) of this section for each hydrogen production facility.

(a) If a CEMS is used to measure CO_2 emissions, then you must retain under this subpart the records required for the Tier 4 Calculation Methodology in § 98.37.

(b) If a CEMS is not used to measure CO_2 emissions, then you must retain records of all analyses and calculations conducted as listed in §§ 98.166(b), (c), and (d).

(c) For units using the calculation methodologies described in § 98.163(b), the records required under § 98.3(g) must include both the company records and a detailed explanation of how company records are used to estimate the following:

(1) Fuel and feedstock consumption, when solid fuel and feedstock is combusted and a CEMS is not used to measure GHG emissions.

(2) Fossil fuel consumption, when, pursuant to § 98.33(e), the owner or operator of a unit that uses CEMS to quantify CO_2 emissions and that combusts both fossil and biogenic fuels separately reports the biogenic portion of the total annual CO_2 emissions.

(3) Sorbent usage, if the methodology in § 98.33(d) is used to calculate CO_2 emissions from sorbent.

(d) The owner or operator must document the procedures used to ensure the accuracy of the estimates of fuel and feedstock usage and sorbent usage (as applicable) in § 98.163(b), including, but not limited to, calibration of weighing equipment, fuel and feedstock flow meters, and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

(e) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (e)(1) through (12) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (e)(1) through (12) of this section.

(1) Indicate whether the monthly consumption of each gaseous fuel or feedstock is measured as mass or volume (Equation P–1 of § 98.163).

(2) Monthly volume of the gaseous fuel or feedstock (scf at standard conditions of 68 °F and atmospheric pressure) (Equation P–1).

(3) Monthly mass of the gaseous fuel or feedstock (kg of fuel or feedstock) (Equation P–1).

(4) Average monthly carbon content of the gaseous fuel or feedstock (kg C per kg of fuel or feedstock) (Equation P–1).

(5) Average monthly molecular weight of the gaseous fuel or feedstock (kg/kg-mole) (Equation P–1).

(6) Indicate whether the monthly consumption of each liquid fuel or feedstock is measured as mass or volume (Equation P–2 of § 98.163).

(7) Monthly volume of the liquid fuel or feedstock (gallons of fuel or feedstock) (Equation P–2).

(8) Monthly mass of the liquid fuel or feedstock (kg of fuel or feedstock) (Equation P–2).

(9) Average monthly carbon content of the liquid fuel or feedstock (kg C per gallon of fuel or feedstock) (Equation P–2).

(10) Average monthly carbon content of the liquid fuel or feedstock (kg C per kg of fuel or feedstock) (Equation P–2).

(11) Monthly mass of solid fuel or feedstock (kg of fuel and feedstock) (Equation P–3 of § 98.163).

(12) Average monthly carbon content of the solid fuel or feedstock (kg C per kg of fuel and feedstock) (Equation P–3).

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71956, Nov. 29, 2013; 79 FR 63787, Oct. 24, 2014]

§ 98.168 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart Q—Iron and Steel Production

§ 98.170 Definition of the source category.

The iron and steel production source category includes facilities with any of the following processes: taconite iron ore processing, integrated iron and steel manufacturing, cokemaking not collocated with an integrated iron and steel manufacturing process, direct reduction furnaces not collocated with an integrated iron and steel manufacturing process, and electric arc furnace (EAF) steelmaking not collocated with an integrated iron and steel manufacturing process. Integrated iron and steel manufacturing means the production of steel from iron ore or iron ore pellets. At a minimum, an integrated iron and steel manufacturing process has a basic oxygen furnace for refining molten iron into steel. Each cokemaking process and EAF process located at a facility with an integrated iron and steel manufacturing process is part of the integrated iron and steel manufacturing facility.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71955, Nov. 29, 2013]

§ 98.171 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an iron and steel production process and the facility meets the requirements of either § 98.2(a)(1) or (2).

§ 98.172 GHGs to report.

(a) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, CH_4, and N_2O from each stationary combustion unit following the requirements of subpart C except for flares. Stationary combustion units include, but are not limited to, by-product recovery coke oven battery combustion stacks, blast furnace stoves, boilers, process heaters, reheat furnaces, annealing furnaces, flame suppression, ladle reheaters, and other miscellaneous combustion sources.

(b) You must report CO_2 emissions from flares that burn blast furnace gas or coke oven gas according to the procedures in § 98.253(b)(1) of subpart Y (Petroleum Refineries) of this part. When using the alternatives set forth in § 98.253(b)(1)(ii)(B) and § 98.253(b)(1)(iii)(C), you must use the default CO_2 emission factors for coke oven gas and blast furnace gas from Table C–1 to subpart C in Equations Y–2 and Y–3 of subpart Y. You must report CH_4 and N_2O emissions from flares according to the requirements in § 98.33(c)(2) using the emission factors for coke oven gas and blast furnace gas in Table C–2 to subpart C of this part.

(c) You must report process CO_2 emissions from each taconite indurating furnace; basic oxygen furnace; non-recovery coke oven battery combustion stack; coke pushing process; sinter process; EAF; decarburization vessel; and direct reduction furnace by following the procedures in this subpart.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66463, Oct. 28, 2010]

§ 98.173 Calculating GHG emissions.

You must calculate and report the annual process CO_2 emissions from each taconite indurating furnace, basic oxygen furnace, non-recovery coke oven battery, sinter process, EAF, decarburization vessel, and direct reduction furnace using the procedures in either paragraph (a) or (b) of this section. Calculate and report the annual process CO_2 emissions from the coke pushing process according to paragraph (c) of this section.

(a) Calculate and report under this subpart the process CO_2 emissions by operating and maintaining CEMS according to the Tier 4 Calculation Methodology in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) Calculate and report under this subpart the process CO_2 emissions using the procedure in paragraph (b)(1) or (b)(2) of this section.

(1) *Carbon mass balance method.* Calculate the annual mass emissions of CO_2 for the process as specified in paragraphs (b)(1)(i) through (b)(1)(vii) of this section. The calculations are based on the annual mass of inputs and outputs to the process and an annual analysis of the respective weight fraction of carbon as determined according to the

procedures in § 98.174(b). If you have a process input or output other than CO_2 in the exhaust gas that contains carbon that is not included in Equations Q–1 through Q–7 of this section, you must account for the carbon and mass rate of that process input or output in your calculations according to the procedures in § 98.174(b)(5).

(i) For taconite indurating furnaces, estimate CO_2 emissions using Equation Q–1 of this section.

$$CO_2 = \frac{44}{12} * \left[(F_s) * (C_{sf}) + (F_g) * (C_{gf}) * \frac{MW}{MVC} * 0.001 + (F_l) * (C_{lf}) * 0.001 + (O) * (C_o) - (P) * (C_p) - (R) * (C_R) \right] \quad \text{(Eq. Q-1)}$$

Where:

CO_2 = Annual CO_2 mass emissions from the taconite indurating furnace (metric tons).

44/12 = Ratio of molecular weights, CO_2 to carbon.

(F_s) = Annual mass of the solid fuel used (metric tons).

(C_{sf}) = Carbon content of the solid fuel, from the fuel analysis (expressed as a decimal fraction).

(F_g) = Annual volume of the gaseous fuel used (scf).

(C_{gf}) = Average carbon content of the gaseous fuel, from the fuel analysis results (kg C per kg of fuel).

MW = Molecular weight of the gaseous fuel (kg/kg-mole).

MVC = Molar volume conversion factor (849.5 scf per kg-mole at standard conditions).

0.001 = Conversion factor from kg to metric tons.

(F_l) = Annual volume of the liquid fuel used (gallons).

(C_{lf}) = Carbon content of the liquid fuel, from the fuel analysis results (kg C per gallon of fuel).

(O) = Annual mass of greenball (taconite) pellets fed to the furnace (metric tons).

(C_0) = Carbon content of the greenball (taconite) pellets, from the carbon analysis results (expressed as a decimal fraction).

(P) = Annual mass of fired pellets produced by the furnace (metric tons).

(C_p) = Carbon content of the fired pellets, from the carbon analysis results (expressed as a decimal fraction).

(R) = Annual mass of air pollution control residue collected (metric tons).

(C_R) = Carbon content of the air pollution control residue, from the carbon analysis results (expressed as a decimal fraction).

(ii) For basic oxygen process furnaces, estimate CO_2 emissions using Equation Q–2 of this section.

$$CO_2 = \frac{44}{12} * \left[(Iron) * (C_{Iron}) + (Scrap) * (C_{Scrap}) + (Flux) * (C_{Flux}) + (Carbon) * (C_{Carbon}) - (Steel) * (C_{Steel}) - (Slag) * (C_{Slag}) - (R) * (C_R) \right] \quad \text{(Eq. Q-2)}$$

Where:

CO_2 = Annual CO_2 mass emissions from the basic oxygen furnace (metric tons).

44/12 = Ratio of molecular weights, CO_2 to carbon.

(Iron) = Annual mass of molten iron charged to the furnace (metric tons).

(C_{Iron}) = Carbon content of the molten iron, from the carbon analysis results (expressed as a decimal fraction).

(Scrap) = Annual mass of ferrous scrap charged to the furnace (metric tons).

(C_{Scrap}) = Carbon content of the ferrous scrap, from the carbon analysis results (expressed as a decimal fraction).

(Flux) = Annual mass of flux materials (e.g., limestone, dolomite) charged to the furnace (metric tons).

(C_{Flux}) = Carbon content of the flux materials, from the carbon analysis results (expressed as a decimal fraction).

(Carbon) = Annual mass of carbonaceous materials (e.g., coal, coke) charged to the furnace (metric tons).

(C_{Carbon}) = Carbon content of the carbonaceous materials, from the carbon analysis results (expressed as a decimal fraction).

(Steel) = Annual mass of molten raw steel produced by the furnace (metric tons).

(C_{Steel}) = Carbon content of the steel, from the carbon analysis results (expressed as a decimal fraction).

(Slag) = Annual mass of slag produced by the furnace (metric tons).

(C_{Slag}) = Carbon content of the slag, from the carbon analysis (expressed as a decimal fraction).

(R) = Annual mass of air pollution control residue collected (metric tons).

(C_R) = Carbon content of the air pollution control residue, from the carbon analysis results (expressed as a decimal fraction)

(iii) For non-recovery coke oven batteries, estimate CO_2 emissions using Equation Q–3 of this section.

$$CO_2 = \frac{44}{12} * \left[(Coal) * (C_{Coal}) - (Coke) * (C_{Coke}) - (R) * (C_R) \right] \qquad \text{(Eq. Q-3)}$$

Where:

CO_2 = Annual CO_2 mass emissions from the non-recovery coke oven battery (metric tons).

44/12 = Ratio of molecular weights, CO_2 to carbon.

(Coal) = Annual mass of coal charged to the battery (metric tons).

(C_{Coal}) = Carbon content of the coal, from the carbon analysis results (expressed as a decimal fraction).

(Coke) = Annual mass of coke produced by the battery (metric tons).

(C_{Coke}) = Carbon content of the coke, from the carbon analysis results (expressed as a decimal fraction).

(R) = Annual mass of air pollution control residue collected (metric tons).

(C_R) = Carbon content of the air pollution control residue, from the carbon analysis results (expressed as a decimal fraction)

(iv) For sinter processes, estimate CO_2 emissions using Equation Q–4 of this section.

$$CO_2 = \frac{44}{12} * \left[(F_g) * (C_{gf}) * \frac{MW}{MVC} * 0.001 + (Feed) * (C_{Feed}) - (\text{Sinter}) * (C_{Sinter}) - (R) * (C_R) \right] \qquad \text{(Eq. Q-4)}$$

Where:

CO_2 = Annual CO_2 mass emissions from the sinter process (metric tons).

44/12 = Ratio of molecular weights, CO_2 to carbon.

(F_g) = Annual volume of the gaseous fuel used (scf).

(C_{gf}) = Carbon content of the gaseous fuel, from the fuel analysis results (kg C per kg of fuel).

MW = Molecular weight of the gaseous fuel (kg/kg-mole).

MVC = Molar volume conversion factor (849.5 scf per kg-mole at standard conditions).

0.001 = Conversion factor from kg to metric tons.

(Feed) = Annual mass of sinter feed material (metric tons).

(C_{Feed}) = Carbon content of the mixed sinter feed materials that form the bed entering the sintering machine, from the carbon analysis results (expressed as a decimal fraction).

(Sinter) = Annual mass of sinter produced (metric tons).

(C_{Sinter}) = Carbon content of the sinter pellets, from the carbon analysis results (expressed as a decimal fraction).

(R) = Annual mass of air pollution control residue collected (metric tons).

(C_R) = Carbon content of the air pollution control residue, from the carbon analysis results (expressed as a decimal fraction).

(v) For EAFs, estimate CO_2 emissions using Equation Q–5 of this section.

$$CO_2 = \frac{44}{12} * \left[\begin{array}{l} (Iron) * (C_{Iron}) + (Scrap) * (C_{Scrap}) + (Flux) * (C_{Flux}) + (Electrode) * (C_{Electrode}) + (Carbon) \\ * (C_{Carbon}) - (Steel) * (C_{Steel}) + (F_g) * (C_{gf}) * \frac{MW}{MVC} * 0.001 - (Slag) * (C_{Slag}) - (R) * (CR) \end{array} \right]$$

(Eq. Q-5)

Where:

CO_2 = Annual CO_2 mass emissions from the EAF (metric tons).

44/12 = Ratio of molecular weights, CO_2 to carbon.

(Iron) = Annual mass of direct reduced iron (if any) charged to the furnace (metric tons).

(C_{Iron}) = Carbon content of the direct reduced iron, from the carbon analysis results (expressed as a decimal fraction).

(Scrap) = Annual mass of ferrous scrap charged to the furnace (metric tons).

(C_{Scrap}) = Carbon content of the ferrous scrap, from the carbon analysis results (expressed as a decimal fraction).

(Flux) = Annual mass of flux materials (*e.g.*, limestone, dolomite) charged to the furnace (metric tons).

(C_{Flux}) = Carbon content of the flux materials, from the carbon analysis results (expressed as a decimal fraction).

(Electrode) = Annual mass of carbon electrode consumed (metric tons).

($C_{Electrode}$) = Carbon content of the carbon electrode, from the carbon analysis results (expressed as a decimal fraction).

(Carbon) = Annual mass of carbonaceous materials (*e.g.*, coal, coke) charged to the furnace (metric tons).

(C_{Carbon}) = Carbon content of the carbonaceous materials, from the carbon analysis results (expressed as a decimal fraction).

(Steel) = Annual mass of molten raw steel produced by the furnace (metric tons).

(C_{Steel}) = Carbon content of the steel, from the carbon analysis results (expressed as a decimal fraction).

(F_g) = Annual volume of the gaseous fuel used (scf at 60 degrees F and one atmosphere).

(C_{gf}) = Average carbon content of the gaseous fuel, from the fuel analysis results (kg C per kg of fuel).

(MW) = Molecular weight of the gaseous fuel (kg/kg-mole).

(MVC) = Molar volume conversion factor (836.6 scf per kg-mole at standard conditions of 60 degrees F and one atmosphere).

(0.001) = Conversion factor from kg to metric tons.

(Slag) = Annual mass of slag produced by the furnace (metric tons).

(C_{Slag}) = Carbon content of the slag, from the carbon analysis results (expressed as a decimal fraction).

(R) = Annual mass of air pollution control residue collected (metric tons).

(C_R) = Carbon content of the air pollution control residue, from the carbon analysis results (expressed as a decimal fraction).

(vi) For decarburization vessels, estimate CO_2 emissions using Equation Q–6 of this section.

$$CO_2 = \frac{44}{12} * \{(Steel) * [(C_{Steelin}) - (C_{Steelout})] - (R) * (C_R)\} \quad \text{(Eq. Q-6)}$$

Where:

CO_2 = Annual CO_2 mass emissions from the decarburization vessel (metric tons).

44/12 = Ratio of molecular weights, CO_2 to carbon.

(Steel) = Annual mass of molten steel charged to the vessel (metric tons).

($C_{Steelin}$) = Carbon content of the molten steel before decarburization, from the carbon analysis results (expressed as a decimal fraction).

($C_{Steelout}$) = Carbon content of the molten steel after decarburization, from the carbon analysis results (expressed as a decimal fraction).

(R) = Annual mass of air pollution control residue collected (metric tons).

(C_R) = Carbon content of the air pollution control residue, from the carbon analysis results (expressed as a decimal fraction).

(vii) For direct reduction furnaces, estimate CO_2 emissions using Equation Q–7 of this section.

$$CO_2 = \frac{44}{12} * \left[\left(F_g\right) * \left(C_{gf}\right) * \frac{MW}{MVC} * 0.001 + \left(Ore\right) * \left(C_{Ore}\right) \right. \quad \text{(Eq. Q-7)}$$

$$+ \left(Carbon\right) * \left(C_{Carbon}\right) + \left(Other\right) * \left(C_{Other}\right)$$

$$\left. - \left(Iron\right) \left(C_{Iron}\right) - \left(NM\right) * \left(C_{NM}\right) - \left(R\right) * \left(C_R\right) \right]$$

Where:

CO_2 = Annual CO_2 mass emissions from the direct reduction furnace (metric tons).

44/12 = Ratio of molecular weights, CO_2 to carbon.

(F_g) = Annual volume of the gaseous fuel used (scf).

(C_{gf}) = Carbon content of the gaseous fuel, from the fuel analysis results (kg C per kg of fuel).

MW = Molecular weight of the gaseous fuel (kg/kg-mole).

MVC = Molar volume conversion factor (849.5 scf per kg-mole at standard conditions).

0.001 = Conversion factor from kg to metric tons.

(Ore) = Annual mass of iron ore or iron ore pellets fed to the furnace (metric tons).

(C_{Ore}) = Carbon content of the iron ore or iron ore pellets, from the carbon analysis results (expressed as a decimal fraction).

(Carbon) = Annual mass of carbonaceous materials (e.g., coal, coke) charged to the furnace (metric tons).

(C_{Carbon}) = Carbon content of the carbonaceous materials, from the carbon analysis results (expressed as a decimal fraction).

(Other) = Annual mass of other materials charged to the furnace (metric tons).

(C_{Other}) = Average carbon content of the other materials charged to the furnace, from the carbon analysis results (expressed as a decimal fraction).

(Iron) = Annual mass of iron produced (metric tons).

(C_{Iron}) = Carbon content of the iron, from the carbon analysis results (expressed as a decimal fraction).

(NM) = Annual mass of non-metallic materials produced by the furnace (metric tons).

(C_{NM}) = Carbon content of the non-metallic materials, from the carbon analysis results (expressed as a decimal fraction).

(R) = Annual mass of air pollution control residue collected (metric tons).

(C_R) = Carbon content of the air pollution control residue, from the carbon analysis results (expressed as a decimal fraction).

(2) *Site-specific emission factor method.* Conduct a performance test and measure CO_2 emissions from all exhaust stacks for the process and measure either the feed rate of materials into the process or the production rate during the test as described in paragraphs (b)(2)(i) through (b)(2)(iv) of this section.

(i) You must measure the process production rate or process feed rate, as applicable, during the performance test according to the procedures in § 98.174(c)(5) and calculate the average rate for the test period in metric tons per hour.

(ii) You must calculate the hourly CO_2 emission rate using Equation Q–8 of this section and determine the average hourly CO_2 emission rate for the test.

$$CO_2 = 5.18 \text{ x } 10^{-7} \star C_{CO2} \star \text{Q} \star \left(\frac{100 - \%H_2O}{100} \right) \quad \text{(Eq. Q-8)}$$

Where:

CO_2 = CO_2 mass emission rate, corrected for moisture (metric tons/hr).

5.18×10^{-7} = Conversion factor (metric tons/scf – % CO_2).

C_{CO2} = Hourly CO_2 concentration, dry basis (% CO_2).

Q = Hourly stack gas volumetric flow rate (scfh).

%H_2O = Hourly moisture percentage in the stack gas.

(iii) You must calculate a site-specific emission factor for the process in metric tons of CO_2 per metric ton of feed or production, as applicable, by dividing the average hourly CO_2 emission rate during the test by the average hourly feed or production rate during the test.

(iv) You must calculate CO_2 emissions for the process by multiplying the emission factor by the total amount of feed or production, as applicable, for the reporting period.

(c) You must determine emissions of CO_2 from the coke pushing process in $mtCO_2e$ by multiplying the metric tons of coal charged to the by-product recovery and non-recovery coke ovens during the reporting period by 0.008.

(d) If GHG emissions from a taconite indurating furnace, basic oxygen furnace, non-recovery coke oven battery, sinter process, EAF, decarburization vessel, or direct reduction furnace are vented through a stack equipped with a CEMS that complies with the Tier 4 methodology in subpart C of this part, or through the same stack as any combustion unit or process equipment that reports CO_2 emissions using a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Fuel Combustion Sources), then the calculation methodology in paragraph (b) of this section shall not be used to calculate process emissions. The owner or operator shall report under this subpart the combined stack emissions according to the Tier 4 Calculation Methodology in § 98.33(a)(4) and comply with all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66464, Oct. 28, 2010; 78 FR 71956, Nov. 29, 2013]

§ 98.174 Monitoring and QA/QC requirements.

(a) If you operate and maintain a CEMS that measures CO_2 emissions consistent with subpart C of this part, you must meet the monitoring and QA/QC requirements of § 98.34(c).

(b) If you determine CO_2 emissions using the carbon mass balance procedure in § 98.173(b)(1), you must:

(1) Except as provided in paragraph (b)(4) of this section, determine the mass of each process input and output other than fuels using the same plant instruments or procedures that are used for accounting purposes (such as weigh hoppers, belt weigh feeders, weighed purchased quantities in shipments or containers, combination of bulk density and volume measurements, etc.), record the totals for each process input and output for each calendar month, and sum the monthly mass to determine the annual mass for each process input and output. Determine the mass rate of fuels using the procedures for combustion units in § 98.34. No determination of the mass of steel output from decarburization vessels is required.

(2) Except as provided in paragraph (b)(4) of this section, determine the carbon content of each process input and output annually for use in the applicable equations in § 98.173(b)(1) based on analyses provided by the supplier or by the average carbon content determined by collecting and analyzing at least three samples each year using the standard methods specified in paragraphs (b)(2)(i) through (b)(2)(vi) of this section as applicable.

(i) ASTM C25–06, Standard Test Methods for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime (incorporated by reference, *see* § 98.7) for limestone, dolomite, and slag.

(ii) ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, *see* § 98.7) for coal, coke, and other carbonaceous materials.

(iii) ASTM E1915–07a, Standard Test Methods for Analysis of Metal Bearing Ores and Related Materials by Combustion Infrared-Absorption Spectrometry (incorporated by reference, *see* § 98.7) for iron ore, taconite pellets, and other iron-bearing materials.

(iv) ASTM E1019–08, Standard Test Methods for Determination of Carbon, Sulfur, Nitrogen, and Oxygen in Steel, Iron, Nickel, and Cobalt Alloys by Various Combustion and Fusion Techniques (incorporated by reference, *see* § 98.7) for iron and ferrous scrap.

(v) ASM CS–104 UNS No. G10460—Alloy Digest April 1985 (Carbon Steel of Medium Carbon Content) (incorporated by reference, *see* § 98.7); ISO/TR 15349–1:1998, Unalloyed steel—Determination of low carbon content, Part 1: Infrared absorption method after combustion in an electric resistance furnace (by peak separation) (1998–10–15) First Edition (incorporated by reference, *see* § 98.7); or ISO/TR 15349–3:1998, Unalloyed steel-Determination of low carbon content Part 3: Infrared absorption method after combustion in an electric resistance furnace (with preheating) (1998–10–15) First Edition (incorporated by reference, *see* § 98.7) as applicable for steel.

(vi) For each process input that is a fuel, determine the carbon content and molecular weight (if applicable) using the applicable methods listed in § 98.34.

(3) For solid ferrous materials charged to basic oxygen process furnaces or EAFs that differ in carbon content, you may determine a weighted average carbon content based on the carbon content of each type of ferrous material and the average weight percent of each type that is used. Examples of these different ferrous materials include carbon steel, low carbon steel, stainless steel, high alloy steel, pig iron, iron scrap, and direct reduced iron.

(4) If you document that a specific process input or output contributes less than one percent of the total mass of carbon into or out of the process, you do not have to determine the monthly mass or annual carbon content of that input or output.

(5) Except as provided in paragraph (b)(4) of this section, you must determine the annual carbon content and monthly mass rate of any input or output that contains carbon that is not listed in the equations in § 98.173(b)(1) using the procedures in paragraphs (b)(1) and (b)(2) of this section.

(c) If you determine CO_2 emissions using the site-specific emission factor procedure in § 98.173(b)(2), you must:

(1) Conduct an annual performance test that is based on representative performance (i.e., performance based on normal operating conditions) of the affected process.

(2)(i) For the exhaust from basic oxygen furnaces, EAFs, decarburization vessels, and direct reduction furnaces, sample the furnace exhaust for at least three complete production cycles that start when the furnace is being charged and end after steel or iron and slag have been tapped. For EAFs that produce both carbon steel and stainless or specialty (low carbon) steel, develop an emission factor for the production of both types of steel.

(ii) For the exhaust from continuously charged EAFs, sample the exhaust for a period spanning at least three hours. For EAFs that produce both carbon steel and stainless or specialty (low carbon) steel, develop an emission factor for the production of both types of steel.

(3) For taconite indurating furnaces, non-recovery coke batteries, and sinter processes, sample for at least 3 hours.

(4) Conduct the stack test using EPA Method 3A at 40 CFR part 60, appendix A–2 to measure the CO_2 concentration, Method 2, 2A, 2C, 2D, or 2F at 40 CFR part 60, appendix A–1 or Method 26 at 40 CFR part 60, appendix A–2 to determine the stack gas volumetric flow rate, and Method 4 at 40 CFR part 60, at appendix A–3 to determine the moisture content of the stack gas.

(5) Determine the mass rate of process feed or process production (as applicable) during the test using the same plant instruments or procedures that are used for accounting purposes (such as weigh hoppers, belt weigh feeders, combination of bulk density and volume measurements, etc.)

(6) If your process operates under different conditions as part of normal operations in such a manner that CO_2 emissions change by more than 20 percent (e.g., routine changes in the carbon content of the sinter feed or change in grade of product), you must perform emission testing and develop separate emission factors for these different operating conditions and determine emissions based on the number of hours the process operates and the production or feed rate (as applicable) at each specific different condition.

(7) If your EAF and decarburization vessel exhaust to a common emission control device and stack, you must sample each process in the ducts before the emissions are combined, sample each process when only one process is

operating, or sample the combined emissions when both processes are operating and base the site-specific emission factor on the steel production rate of the EAF.

(8) The results of a performance test must include the analysis of samples, determination of emissions, and raw data. The performance test report must contain all information and data used to derive the emission factor.

(d) For a coke pushing process, determine the metric tons of coal charged to the coke ovens and record the totals for each pushing process for each calendar month. Coal charged to coke ovens can be measured using weigh belts or a combination of measuring volume and bulk density.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66464, Oct. 28, 2010; 78 FR 71957, Nov. 29, 2013]

§ 98.175 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations in § 98.173 is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in the paragraphs (a) and (b) of this section. You must follow the missing data procedures in § 98.255(b) of subpart Y (Petroleum Refineries) of this part for flares burning coke oven gas or blast furnace gas. You must document and keep records of the procedures used for all such estimates.

(a) Except as provided in § 98.174(b)(4), 100 percent data availability is required for the carbon content of inputs and outputs for facilities that estimate emissions using the carbon mass balance procedure in § 98.173(b)(1) or facilities that estimate emissions using the site-specific emission factor procedure in § 98.173(b)(2).

(b) For missing records of the monthly mass or volume of carbon-containing inputs and outputs using the carbon mass balance procedure in § 98.173(b)(1), the substitute data value must be based on the best available estimate of the mass of the input or output material from all available process data or data used for accounting purposes.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66464, Oct. 28, 2010; 78 FR 71958, Nov. 29, 2013]

§ 98.176 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information required in paragraphs (a) through (h) of this section for each coke pushing operation; taconite indurating furnace; basic oxygen furnace; non-recovery coke oven battery; sinter process; EAF; decarburization vessel; direct reduction furnace; and flare burning coke oven gas or blast furnace gas. For reporting year 2010, the information required in paragraphs (a) through (h) of this section is not required for decarburization vessels that are not argon-oxygen decarburization vessels. For reporting year 2011 and each subsequent reporting year, the information in paragraphs (a) through (h) of this section must be reported for all decarburization vessels.

(a) Unit identification number and annual CO_2 emissions (in metric tons).

(b) If a CEMS is used to measure CO_2 emissions, then you must report the annual production quantity for the production unit (in metric tons) for taconite pellets, coke, sinter, iron, and raw steel.

(c) If a CEMS is used to measure CO_2 emissions, then you must report the relevant information required under § 98.36 for the Tier 4 Calculation Methodology.

(d) If a CEMS is not used to measure CO_2 emissions, then you must report for each process whether the emissions were determined using the carbon mass balance method in § 98.173(b)(1) or the site-specific emission factor method in § 98.173(b)(2).

(e) If you use the carbon mass balance method in § 98.173(b)(1) to determine CO_2 emissions, you must, except as provided in § 98.174(b)(4), report the following information for each process:

(1) [Reserved]

(2) Whether the carbon content was determined from information from the supplier or by laboratory analysis, and if by laboratory analysis, the method used.

(3)–(4) [Reserved]

(5) If you used the missing data procedures in §98.175(b), you must report how the monthly mass for each process input or output with missing data was determined and the number of months the missing data procedures were used.

(6) The information specified in paragraphs (e)(6)(i) through (vi) of this section aggregated for all process units for which CO_2 emissions were determined using the mass balance method in §98.173(b)(1), except as provided in §98.174(b)(4).

(i) The annual mass (metric tons) of all gaseous, liquid, and solid fuels (combined) used in process units for which CO_2 emissions were determined using Equations Q–1 through Q–7 of §98.173, calculated as specified in Equation Q–9 of this section.

$$Fuel = \sum_{i=1}^{n} \left(F_{g,i} * \frac{MW_i}{MVC} * 0.001 + F_{l,i} * \rho_{l,i} * 0.001 + F_{s,i} \right) \quad \text{(Eq. Q-9)}$$

Where:

Fuel = Annual mass of all gaseous, liquid, and solid fuels used in process units (metric tons).

n = Number of process units where fuel is used.

$F_{g,i}$ = Annual volume of gaseous fuel combusted (''(F_g)'' in Equations Q–1, Q–4 and Q–7 of §98.173) for each process (scf).

MW_i = Molecular weight of gaseous fuel used in each process (kg/kg-mole).

MVC = Molar volume conversion factor at standard conditions, as defined in §98.6. Use 849.5 scf per kg mole if you select 68 °F as standard temperature and 836.6 scf per kg mole if you select 60 °F as standard temperature.

$F_{l,i}$ = Annual volume of the liquid fuel combusted (''(F_l)'' included in Equation Q–1) for each process unit (gallons).

$F_{s,i}$ = Annual mass of the solid fuel combusted (''(F_s)'' in Equation Q–1) for each process unit (metric tons).

$\rho_{l,i}$ = Density of the liquid fuel (kg/gallon).

0.001 = Conversion factor from kg to metric tons.

(ii) The annual mass (metric tons) of all non-fuel material inputs (combined) specified in Equations Q–1 through Q–7 of §98.173, calculated as specified in Equation Q–10 of this section.

$$NFI = \sum_{i=1}^{n} \begin{pmatrix} O + Iron + Scrap + lux + Carbon + Coal + Feed \\ + Electrode + Steel_{in} + Ore + Other \end{pmatrix} \quad \text{(Eq. Q-10)}$$

Where:

NFI = Annual mass of all non-fuel inputs (to all process unit types) specified in Equations Q–1 through Q–7 of §98.173 (metric tons).

n = Number of process units, all process types.

O = Annual mass of greenball (taconite) pellets fed to the taconite furnace(s) (metric tons).

Iron = Annual mass of molten iron charged to the basic oxygen furnace(s) plus annual mass of direct reduced iron charged to the EAF(s) (metric tons).

Scrap = Annual mass of ferrous scrap charged to the basic oxygen furnace(s) and EAF(s) (metric tons).

Flux = Annual mass of flux materials charged to the basic oxygen furnace(s) and EAF(s) (metric tons).

Carbon = Annual mass of carbonaceous materials (e.g., coal, coke) charged to the basic oxygen furnace(s), EAF(s), and direct reduction furnace(s) (metric tons).

Coal = Annual mass of coal charged to the coke oven battery(s) (metric tons).

Feed = Annual mass of sinter feed material charged to the sinter process(es) (metric tons).

Electrode = Annual mass of carbon electrode consumed in the EAF(s) (metric tons).

$Steel_{in}$ = Annual mass of molten steel charged to the decarburization vessels (metric tons).

Ore = Annual mass of iron ore or iron ore pellets fed to the direct reduction furnace(s) (metric tons).

Other = Annual mass of other materials charged to the direction reduction furnace(s) (metric tons).

(iii) The annual mass (metric tons) of all solid and liquid products and by-products (combined) specified in Equations Q–1 through Q–7 of § 98.173, calculated as specified in Equation Q–11 of this section.

$$Products = \sum_{i=1}^{n} (P + R + I + Steel_{out} + Slag + Coke + Sinter + Iron + NM) \quad \text{(Eq. Q-11)}$$

Where:

Products = Annual mass of all solid and liquid products and by-products (from all process units) specified in Equations Q–1 through Q–7 of § 98.173 (metric tons).

n = Number of process units, all types.

P = Annual mass of fired pellets produced by the taconite furnace (metric tons).

R = Annual mass of air pollution control residue from all process units (metric tons).

$Steel_{out}$ = Annual mass of steel produced by the basic oxygen furnace(s), EAF(s) and decarburization vessel(s) (metric tons).

Slag = Annual mass of slag produced by the basic oxygen furnace(s) and EAF(s) (metric tons).

Coke = Annual mass of coke produced by the non-recovery coke batteries (metric tons).

Sinter = Annual mass of sinter produced from the sinter process(es) (metric tons).

Iron = Annual mass of iron produced from the direct reduction furnace (metric tons).

NM = Annual mass of non-metallic materials produced by the direct reduction furnace (metric tons).

(iv) The weighted average carbon content of all gaseous, liquid, and solid fuels (combined) included in Equation Q–9 of this section, calculated as specified in Equation Q–12 of this section.

$$CF_{avg} = \frac{\sum_{i=1}^{n}(F_{g,i} * \frac{MW_i}{MVC} * C_{g,f,i} * 0.001 + F_{l,i} * C_{lf,i} * 0.001 + F_{s,i} * C_{sf})}{Fuel} \quad \text{(Eq. Q-12)}$$

Where:

CF_{avg} = Weighted average carbon content of all gaseous, liquid, and solid fuels included in Equation Q–9 of this section (weight fraction).

n = Number of gaseous, liquid, and solid fuel input to each process unit as used in Equation Q–9.

$C_{gf,i}$ = Average carbon content of the gaseous fuel used in each process, from the fuel analysis results (kg C per kg of fuel).

$C_{lf,i}$ = Carbon content of the liquid fuel used in each process, from the fuel analysis results (kg C per gallon of fuel.

C_{sf} = Carbon content of the solid fuel used in each process, from the fuel analysis (expressed as a decimal fraction, e.g., 95% = 0.95).

Fuel = Annual mass of all gaseous, liquid, and solid fuels used in process units (metric tons), as calculated in Equation Q–9.

(v) The weighted average carbon content of all non-fuel inputs to all process units (combined) included in Equation Q–10 of this section, calculated as specified in Equation Q–13 of this section.

$$CI_{avg} = \frac{(\sum_{i=1}^{n} NFI_i * C_{NFIi})}{NFI} \quad \text{(Eq. Q-13)}$$

Where:

CI_{avg} = Weighted average carbon content of all non-fuel inputs to all process units included in Equation Q–10 of this section (weight fraction).

n = Number of non-fuel inputs to all process units as used in Equation Q–10.

NFI_i = Annual mass of each non-fuel input used in Equation Q–10 (metric tons).

C_{NFIi} = Average carbon content of each non-fuel input used in Equation Q–10 (expressed as a decimal fraction).

NFI = Total of all non-fuel inputs to all process units (metric tons).

(vi) The weighted average carbon content of all solid and liquid products and byproducts from all process units

(combined) included in Equation Q–11 of this section, calculated as specified in Equation Q–14 of this section.

$$CP_{avg} = \frac{\left(\sum_{i=1}^{n} Product_i * C_{Pi}\right)}{Products} \quad \text{(Eq. Q-14)}$$

Where:

CP_{avg} = Weighted average carbon content of all solid and liquid products and byproducts from all process units (weight fraction).

n = Number of products and byproducts from each process unit as used in Equation Q–11 of this section.

$Product_i$ = Annual mass of each product or byproduct used in Equation Q–11 (metric tons).

$C_{p,i}$ = Average carbon content of each product or byproduct used in Equation Q–11 (expressed as a decimal fraction).

Products = Mass of all products and byproducts from all process units, calculated in Equation Q–11 (metric tons).

(f) If you used the site-specific emission factor method in §98.173(b)(2) to determine CO_2 emissions, you must report the following information for each process:

(1) The measured average hourly CO_2 emission rate during the test (in metric tons per hour).

(2)–(4) [Reserved]

(g) [Reserved]

(h) For flares burning coke oven gas or blast furnace gas, the information specified in §98.256(e) of subpart Y (Petroleum Refineries) of this part.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66464, Oct. 28, 2010; 78 FR 71958, Nov. 29, 2013; 79 FR 63787, Oct. 24, 2014]

§98.177 Records that must be retained.

In addition to the records required by §98.3(g), you must retain the records specified in paragraphs (a) through (f) of this section, as applicable. Facilities that use CEMS to measure emissions must also retain records of the verification data required for the Tier 4 Calculating Methodology in §98.36(e).

(a) Records of all analyses and calculations conducted, including all information reported as required under §98.176.

(b) When the carbon mass balance method is used to estimate emissions for a process, the monthly mass of each process input and output that are used to determine the annual mass, except that no determination of the mass of steel output from decarburization vessels is required.

(c) Production capacity (in metric tons per year) for the production of taconite pellets, coke, sinter, iron, and raw steel.

(d) Annual operating hours for each taconite indurating furnace, basic oxygen furnace, non-recovery coke oven battery, sinter process, electric arc furnace, decarburization vessel, and direct reduction furnace.

(e) Facilities must keep records that include a detailed explanation of how company records or measurements are used to determine all sources of carbon input and output and the metric tons of coal charged to the coke ovens (e.g., weigh belts, a combination of measuring volume and bulk density). You also must document the procedures used to ensure the accuracy of the measurements of fuel usage including, but not limited to, calibration of weighing equipment, fuel flow meters, coal usage including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

(f) *Verification software records.* You must keep a record of the file generated by the verification software specified in §98.5(b) for the applicable data specified in paragraphs (f)(1) through (9) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (f)(1) through (9) of this section.

(1) The data in paragraphs (f)(1)(i) through (xxv) of this section for each applicable taconite indurating furnace

for which the carbon mass balance method of reporting is used.

(i) Annual mass of each solid fuel (metric tons) (Equation Q–1 of § 98.173).

(ii) Carbon content of each solid fuel, from the fuel analysis (expressed as a decimal fraction) (Equation Q–1).

(iii) Annual volume of each gaseous fuel (scf) (Equation Q–1).

(iv) Average carbon content of each gaseous fuel, from the fuel analysis results (kg C per kg of fuel) (Equation Q–1).

(v) Molecular weight of each gaseous fuel (kg/kg-mole) (Equation Q–1).

(vi) Annual volume of each liquid fuel (gallons) (Equation Q–1).

(vii) Carbon content of each liquid fuel, from the fuel analysis results (kg C per gallon of fuel) (Equation Q–1).

(viii) Annual mass of the greenball (taconite) pellets fed to the furnace (metric tons) (Equation Q–1).

(ix) Carbon content of the greenball (taconite) pellets, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–1).

(x) Annual mass of fired pellets produced by the furnace (metric tons) (Equation Q–1).

(xi) Carbon content of the fired pellets, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–1).

(xii) Annual mass of air pollution control residue collected (metric tons) (Equation Q–1).

(xiii) Carbon content of the air pollution control residue, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–1).

(xiv) Annual mass of each other solid input containing carbon fed to each furnace (metric tons) (Equation Q–1).

(xv) Carbon content of each other solid input containing carbon fed to each furnace (expressed as a decimal fraction) (Equation Q–1).

(xvi) Annual mass of each other solid output containing carbon produced by each furnace (metric tons) (Equation Q–1).

(xvii) Carbon content of each other solid output containing carbon (expressed as a decimal fraction) (Equation Q–1).

(xviii) Annual mass of each other gaseous input containing carbon fed to each furnace (metric tons) (Equation Q–1).

(xix) Carbon content of each other gaseous input containing carbon fed to each furnace (expressed as a decimal fraction) (Equation Q–1).

(xx) Annual mass of each other gaseous output containing carbon produced by each furnace (metric tons) (Equation Q–1).

(xxi) Carbon content of each other gaseous output containing carbon produced by each furnace (expressed as a decimal fraction) (Equation Q–1).

(xxii) Annual mass of each other liquid input containing carbon fed to each furnace (metric tons) (Equation Q–1).

(xxiii) Carbon content of each other liquid input containing carbon fed to each furnace (expressed as a decimal fraction) (Equation Q–1).

(xxiv) Annual mass of each other liquid output containing carbon produced by each furnace (metric tons) (Equation Q–1).

(xxv) Carbon content of each other liquid output containing carbon produced by each furnace (expressed as a decimal fraction) (Equation Q–1).

(2) The data in paragraphs (f)(2)(i) through (xxvi) of this section for each applicable basic oxygen process furnace for which the carbon mass balance method of reporting is used.

(i) Annual mass of molten iron charged to the furnace (metric tons) (Equation Q–2 of § 98.173).

(ii) Carbon content of the molten iron charged to the furnace, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–2).

(iii) Annual mass of ferrous scrap charged to the furnace (metric tons) (Equation Q–2).

(iv) Carbon content of the ferrous scrap charged to the furnace, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–2).

(v) Annual mass of the flux materials (e.g., limestone, dolomite) charged to the furnace (metric tons) (Equation Q–2).

(vi) Carbon content of the flux materials charged to the furnace, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–2).

(vii) Annual mass of the carbonaceous materials (e.g., coal, coke)

charged to the furnace (metric tons) (Equation Q–2).

(viii) Carbon content of the carbonaceous materials charged to the furnace, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–2).

(ix) Annual mass of molten raw steel produced by the furnace (metric tons) (Equation Q–2).

(x) Carbon content of the steel produced by the furnace, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–2).

(xi) Annual mass of slag produced by the furnace (metric tons) (Equation Q–2).

(xii) Carbon content of the slag produced by the furnace, from the carbon analysis (expressed as a decimal fraction) (Equation Q–2).

(xiii) Annual mass of air pollution control residue collected for the furnace (metric tons) (Equation Q–2).

(xiv) Carbon content of the air pollution control residue collected for the furnace, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–2).

(xv) Annual mass of each other solid input containing carbon fed to each furnace (metric tons) (Equation Q–2).

(xvi) Carbon content of each other solid input containing carbon fed to each furnace (expressed as a decimal fraction) (Equation Q–2).

(xvii) Annual mass of each other solid output containing carbon produced by each furnace (metric tons) (Equation Q–2).

(xviii) Carbon content of each other solid output containing carbon (expressed as a decimal fraction) (Equation Q–2).

(xix) Annual mass of each other gaseous input containing carbon fed to each furnace (metric tons) (Equation Q–2).

(xx) Carbon content of each other gaseous input containing carbon fed to each furnace (expressed as a decimal fraction) (Equation Q–2).

(xxi) Annual mass of each other gaseous output containing carbon produced by each furnace (metric tons) (Equation Q–2).

(xxii) Carbon content of each other gaseous output containing carbon produced by each furnace (expressed as a decimal fraction) (Equation Q–2).

(xxiii) Annual mass of each other liquid input containing carbon fed to each furnace (metric tons) (Equation Q–2).

(xxiv) Carbon content of each other liquid input containing carbon fed to each furnace (expressed as a decimal fraction) (Equation Q–2).

(xxv) Annual mass of each other liquid output containing carbon produced by each furnace (metric tons) (Equation Q–2).

(xxvi) Carbon content of each other liquid output containing carbon produced by each furnace (expressed as a decimal fraction) (Equation Q–2).

(3) The data in paragraphs (f)(3)(i) through (xviii) of this section for each applicable non-recovery coke oven battery for which the carbon mass balance method of reporting is used.

(i) Annual mass of coal charged to the battery (metric tons) (Equation Q–3 of § 98.173).

(ii) Carbon content of the coal, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–3).

(iii) Annual mass of coke produced by the battery (metric tons) (Equation Q–3).

(iv) Carbon content of the coke, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–3).

(v) Annual mass of air pollution control residue collected (metric tons) (Equation Q–3).

(vi) Carbon content of the air pollution control residue, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–3).

(vii) Annual mass of each other solid input containing carbon fed to each battery (metric tons) (Equation Q–3).

(viii) Carbon content of each other solid input containing carbon fed to each battery (expressed as a decimal fraction) (Equation Q–3).

(ix) Annual mass of each other solid output containing carbon produced by each battery (metric tons) (Equation Q–3).

(x) Carbon content of each other solid output containing carbon (expressed as a decimal fraction) (Equation Q–3).

(xi) Annual mass of each other gaseous input containing carbon fed to each battery (metric tons) (Equation Q–3).

(xii) Carbon content of each other gaseous input containing carbon fed to each battery (expressed as a decimal fraction) (Equation Q–3).

(xiii) Annual mass of each other gaseous output containing carbon produced by each battery (metric tons) (Equation Q–3).

(xiv) Carbon content of each other gaseous output containing carbon produced by each battery (expressed as a decimal fraction) (Equation Q–3).

(xv) Annual mass of each other liquid input containing carbon fed to each battery (metric tons) (Equation Q–3).

(xvi) Carbon content of each other liquid input containing carbon fed to each battery (expressed as a decimal fraction) (Equation Q–3).

(xvii) Annual mass of each other liquid output containing carbon produced by each battery (metric tons) (Equation Q–3).

(xviii) Carbon content of each other liquid output containing carbon produced by each battery (expressed as a decimal fraction) (Equation Q–3).

(4) The data in paragraphs (f)(4)(i) through (xxi) of this section for each applicable sinter process for which the carbon mass balance method of reporting is used.

(i) Annual volume of the gaseous fuel (scf) (Equation Q–4 of § 98.173).

(ii) Carbon content of the gaseous fuel, from the fuel analysis results (kg C per kg of fuel) (Equation Q–4).

(iii) Molecular weight of the gaseous fuel (kg/kg-mole) (Equation Q–4).

(iv) Annual mass of sinter feed material (metric tons) (Equation Q–4).

(v) Carbon content of the mixed sinter feed materials that form the bed entering the sintering machine, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–4).

(vi) Annual mass of sinter produced (metric tons) (Equation Q–4).

(vii) Carbon content of the sinter pellets, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–4).

(viii) Annual mass of air pollution control residue collected (metric tons) (Equation Q–4).

(ix) Carbon content of the air pollution control residue, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–4).

(x) Annual mass of each other solid input containing carbon fed to each sinter process (metric tons) (Equation Q–4).

(xi) Carbon content of each other solid input containing carbon fed to each sinter process (expressed as a decimal fraction) (Equation Q–4).

(xii) Annual mass of each other solid output containing carbon produced by each sinter process (metric tons) (Equation Q–4).

(xiii) Carbon content of each other solid output containing carbon (expressed as a decimal fraction) (Equation Q–4).

(xiv) Annual mass of each other gaseous input containing carbon fed to each sinter process (metric tons) (Equation Q–4).

(xv) Carbon content of each other gaseous input containing carbon fed to each sinter process (expressed as a decimal fraction) (Equation Q–4).

(xvi) Annual mass of each other gaseous output containing carbon produced by each sinter process (metric tons) (Equation Q–4).

(xvii) Carbon content of each other gaseous output containing carbon produced by each sinter process (expressed as a decimal fraction) (Equation Q–4).

(xviii) Annual mass of each other liquid input containing carbon fed to each sinter process (metric tons) (Equation Q–4).

(xix) Carbon content of each other liquid input containing carbon fed to each sinter process (expressed as a decimal fraction) (Equation Q–4).

(xx) Annual mass of each other liquid output containing carbon produced by each sinter process (metric tons) (Equation Q–4).

(xxi) Carbon content of each other liquid output containing carbon produced by each sinter process (expressed as a decimal fraction) (Equation Q–4).

(5) The data in paragraphs (f)(5)(i) through (xxxi) of this section for each applicable electric arc furnace for which the carbon mass balance method of reporting is used.

(i) Annual mass of direct reduced iron (if any) charged to the furnace (metric tons) (Equation Q–5 of § 98.173).

(ii) Carbon content of the direct reduced iron, from the carbon analysis

results (expressed as a decimal fraction) (Equation Q–5)

(iii) Annual mass of ferrous scrap charged to the furnace (metric tons) (Equation Q–5).

(iv) Carbon content of the ferrous scrap, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–5).

(v) Annual mass of flux materials (e.g., limestone, dolomite) charged to the furnace (metric tons) (EquationQ–5).

(vi) Carbon content of the flux materials, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–5).

(vii) Annual mass of carbon electrode consumed (metric tons) (Equation Q–5).

(viii) Carbon content of the carbon electrode, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–5).

(ix) Annual mass of carbonaceous materials (e.g., coal, coke) charged to the furnace (metric tons) (Equation Q–5).

(x) Carbon content of the carbonaceous materials, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–5).

(xi) Annual mass of molten raw steel produced by the furnace (metric tons) (Equation Q–5).

(xii) Carbon content of the steel, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–5).

(xiii) Annual volume of the gaseous fuel (scf at 60F and 1 atm) (Equation Q–5).

(xiv) Average carbon content of the gaseous fuel, from the fuel analysis results (kg C per kg of fuel) (Equation Q–5).

(xv) Molecular weight of the gaseous fuel (kg/kg-mole) (Equation Q–5).

(xvi) Annual mass of slag produced by the furnace (metric tons) (Equation Q–5).

(xvii) Carbon content of the slag, from the carbon analysis (expressed as a decimal fraction) (Equation Q–5).

(xviii) Annual mass of air pollution control residue collected (metric tons) (Equation Q–5).

(xix) Carbon content of the air pollution control residue, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–5).

(xx) Annual mass of each other solid input containing carbon fed to each furnace (metric tons) (Equation Q–5).

(xxi) Carbon content of each other solid input containing carbon fed to each furnace (expressed as a decimal fraction) (Equation Q–5).

(xxii) Annual mass of each other solid output containing carbon produced by each furnace (metric tons) (Equation Q–5).

(xxiii) Carbon content of each other solid output containing carbon (expressed as a decimal fraction) (Equation Q–5).

(xxiv) Annual mass of each other gaseous input containing carbon fed to each furnace (metric tons) (Equation Q–5).

(xxv) Carbon content of each other gaseous input containing carbon fed to each furnace (expressed as a decimal fraction) (Equation Q–5).

(xxvi) Annual mass of each other gaseous output containing carbon produced by each furnace (metric tons) (Equation Q–5).

(xxvii) Carbon content of each other gaseous output containing carbon produced by each furnace (expressed as a decimal fraction) (Equation Q–5).

(xxviii) Annual mass of each other liquid input containing carbon fed to each furnace (metric tons) (Equation Q–5).

(xxix) Carbon content of each other liquid input containing carbon fed to each furnace (expressed as a decimal fraction) (Equation Q–5).

(xxx) Annual mass of each other liquid output containing carbon produced by each furnace (metric tons) (Equation Q–5).

(xxxi) Carbon content of each other liquid output containing carbon produced by each furnace (expressed as a decimal fraction) (Equation Q–5).

(6) The data in paragraphs (f)(6)(i) through (xvii) of this section for each applicable decarburization vessel for which the carbon mass balance method of reporting is used.

(i) Annual mass of molten steel charged to the vessel (metric tons) (Equation Q–6 of § 98.173).

(ii) Carbon content of the molten steel before decarburization, from the

carbon analysis results (expressed as a decimal fraction) (Equation Q–6).

(iii) Carbon content of the molten steel after decarburization, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–6).

(iv) Annual mass of air pollution control residue collected (metric tons) (Equation Q–6).

(v) Carbon content of the air pollution control residue, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–6).

(vi) Annual mass of each other solid input containing carbon fed to each decarburization vessel (metric tons) (Equation Q–6).

(vii) Carbon content of each other solid input containing carbon fed to each decarburization vessel (expressed as a decimal fraction) (Equation Q–6).

(viii) Annual mass of each other solid output containing carbon produced by each decarburization vessel (metric tons) (Equation Q–6).

(ix) Carbon content of each other solid output containing carbon (expressed as a decimal fraction) (Equation Q–6).

(x) Annual mass of each other gaseous input containing carbon fed to each decarburization vessel (metric tons) (Equation Q–6).

(xi) Carbon content of each other gaseous input containing carbon fed to each decarburization vessel (expressed as a decimal fraction) (Equation Q–6).

(xii) Annual mass of each other gaseous output containing carbon produced by each decarburization vessel (metric tons) (Equation Q–6).

(xiii) Carbon content of each other gaseous output containing carbon produced by each decarburization vessel (expressed as a decimal fraction) (Equation Q–6).

(xiv) Annual mass of each other liquid input containing carbon fed to each decarburization vessel (metric tons) (Equation Q–6).

(xv) Carbon content of each other liquid input containing carbon fed to each decarburization vessel (expressed as a decimal fraction) (Equation Q–6).

(xvi) Annual mass of each other liquid output containing carbon produced by each decarburization vessel (metric tons) (Equation Q–6).

(xvii) Carbon content of each other liquid output containing carbon produced by each decarburization vessel (expressed as a decimal fraction) (Equation Q–6).

(7) The data in paragraphs (f)(7)(i) through (xxvii) of this section for each applicable direct reduction furnace for which the carbon mass balance method of reporting is used.

(i) Annual volume of the gaseous fuel (scf at 68F and 1 atm) (Equation Q–7 of § 98.173).

(ii) Average carbon content of the gaseous fuel, from the fuel analysis results (kg C per kg of fuel) (Equation Q–7).

(iii) Molecular weight of the gaseous fuel (kg/kg-mole) (Equation Q–7).

(iv) Annual mass of iron ore or iron pellets fed to the furnace (metric tons) (Equation Q–7).

(v) Carbon content of the iron ore or iron pellets, from the carbon analysis (expressed as a decimal fraction) (Equation Q–7).

(vi) Annual mass of carbonaceous materials (e.g., coal, coke) charged to the furnace (metric tons) (Equation Q–7).

(vii) Carbon content of the carbonaceous materials, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–7).

(viii) Annual mass of each other material charged to the furnace (metric tons) (Equation Q–7).

(ix) Average carbon content of each other material charged to the furnace, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–7).

(x) Annual mass of iron produced (metric tons) (Equation Q–7).

(xi) Carbon content of the iron produced, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–7).

(xii) Annual mass of non-metallic materials produced by the furnace (metric tons) (Equation Q–7).

(xiii) Carbon content of the non-metallic materials produced, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–7).

(xiv) Annual mass of air pollution control residue collected (metric tons) (Equation Q–7).

(xv) Carbon content of the air pollution control residue collected, from the carbon analysis results (expressed as a decimal fraction) (Equation Q–7).

(xvi) Annual mass of each other solid input containing carbon fed to each furnace (metric tons) (Equation Q–7).

(xvii) Carbon content of each other solid input containing carbon fed to each furnace (expressed as a decimal fraction) (Equation Q–7).

(xviii) Annual mass of each other solid output containing carbon produced by each furnace (metric tons) (Equation Q–7).

(xix) Carbon content of each other solid output containing carbon (expressed as a decimal fraction) (Equation Q–7).

(xx) Annual mass of each other gaseous input containing carbon fed to each furnace (metric tons) (Equation Q–7).

(xxi) Carbon content of each other gaseous input containing carbon fed to each furnace (expressed as a decimal fraction) (Equation Q–7).

(xxii) Annual mass of each other gaseous output containing carbon produced by each furnace (metric tons) (Equation Q–7).

(xxiii) Carbon content of each other gaseous output containing carbon produced by each furnace (expressed as a decimal fraction) (Equation Q–7).

(xxiv) Annual mass of each other liquid input containing carbon fed to each furnace (metric tons) (Equation Q–7).

(xxv) Carbon content of each other liquid input containing carbon fed to each furnace (expressed as a decimal fraction) (Equation Q–7).

(xxvi) Annual mass of each other liquid output containing carbon produced by each furnace (metric tons) (Equation Q–7).

(xxvii) Carbon content of each other liquid output containing carbon produced by each furnace (expressed as a decimal fraction) (Equation Q–7).

(8) The data in paragraphs (f)(8)(i) and (ii) of this section for each process unit for which the site-specific emission factor method was used.

(i) Average hourly feed or production rate, as applicable, during the test (metric tons/hour) (as used in § 98.173(b)(2)(iii)).

(ii) Annual total feed or production, as applicable (metric tons) (as used in § 98.173(b)(2)(iv)).

(9) Total coal charged to the coke ovens for each process (metric tons/year)(as used in § 98.173(c)).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66464, Oct. 28, 2010; 78 FR 71958, Nov. 29, 2013; 79 FR 63788, Oct. 24, 2014]

§ 98.178 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart R—Lead Production

§ 98.180 Definition of the source category.

The lead production source category consists of primary lead smelters and secondary lead smelters. A primary lead smelter is a facility engaged in the production of lead metal from lead sulfide ore concentrates through the use of pyrometallurgical techniques. A secondary lead smelter is a facility at which lead-bearing scrap materials (including but not limited to, lead-acid batteries) are recycled by smelting into elemental lead or lead alloys.

§ 98.181 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a lead production process and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.182 GHGs to report.

You must report:

(a) Process CO_2 emissions from each smelting furnace used for lead production.

(b) CO_2 combustion emissions from each smelting furnace used for lead production.

(c) CH_4 and N_2O combustion emissions from each smelting furnace used for lead production. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

(d) CO_2, CH_4, and N_2O emissions from each stationary combustion unit other than smelting furnaces used for lead

production. You must report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

§ 98.183 Calculating GHG emissions.

You must calculate and report the annual process CO_2 emissions from each smelting furnace using the procedure in paragraphs (a) and (b) of this section.

(a) For each smelting furnace that meets the conditions specified in § 98.33(b)(4)(ii) or (b)(4)(iii), you must calculate and report combined process and combustion CO_2 emissions by operating and maintaining a CEMS to measure CO_2 emissions according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) For each smelting furnace that is not subject to the requirements in paragraph (a) of this section, calculate and report the process and combustion CO_2 emissions from the smelting furnace by using the procedure in either paragraph (b)(1) or (b)(2) of this section.

(1) Calculate and report under this subpart the combined process and combustion CO_2 emissions by operating and maintaining a CEMS to measure CO_2 emissions according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(2) Calculate and report process and combustion CO_2 emissions separately using the procedures specified in paragraphs (b)(2)(i) through (b)(2)(iii) of this section.

(i) For each smelting furnace, determine the annual mass of carbon in each carbon-containing material, other than fuel, that is fed, charged, or otherwise introduced into the smelting furnace and estimate annual process CO_2 emissions using Equation R–1 of this section. Carbon-containing materials include carbonaceous reducing agents. If you document that a specific material contributes less than 1 percent of the total carbon into the process, you do not have to include the material in your calculation using Equation R–1 of this section.

$$E_{CO2} = \frac{44}{12} \times \frac{2000}{2205} \times \left[(Ore \times C_{Ore}) + (Scrap \times C_{scrap}) + (Flux \times C_{Flux}) + (Carbon \times C_{Carbon}) + (Other \times C_{Other}) \right] \quad \text{(Eq.R-1)}$$

Where:

E_{CO2} = Annual process CO_2 emissions from an individual smelting furnace (metric tons).

44/12 = Ratio of molecular weights, CO_2 to carbon.

2000/2205 = Conversion factor to convert tons to metric tons.

Ore = Annual mass of lead ore charged to the smelting furnace (tons).

C_{Ore} = Carbon content of the lead ore, from the carbon analysis results (percent by weight, expressed as a decimal fraction).

Scrap = Annual mass of lead scrap charged to the smelting furnace (tons).

C_{Scrap} = Carbon content of the lead scrap, from the carbon analysis (percent by weight, expressed as a decimal fraction).

Flux = Annual mass of flux materials (e.g., limestone, dolomite) charged to the smelting furnace (tons).

C_{Flux} = Carbon content of the flux materials, from the carbon analysis (percent by weight, expressed as a decimal fraction).

Carbon = Annual mass of carbonaceous materials (e.g., coal, coke) charged to the smelting furnace (tons).

C_{Carbon} = Carbon content of the carbonaceous materials, from the carbon analysis (percent by weight, expressed as a decimal fraction).

Other = Annual mass of any other material containing carbon, other than fuel, fed, charged, or otherwise introduced into the smelting furnace (tons).

C_{Other} = Carbon content of the other material from the carbon analysis results (percent by weight, expressed as a decimal fraction).

(ii) Determine the combined annual process CO_2 emissions from the smelting furnaces at your facility using Equation R–2 of this section.

$$CO_2 = \sum_{1}^{k} E_{CO2_k} \qquad \text{(Eq. R-2)}$$

Where:

CO_2 = Annual process CO_2 emissions from smelting furnaces at facility used for lead production (metric tons).

E_{CO2_k} = Annual process CO_2 emissions from smelting furnace k calculated using Equation R–1 of this section (metric tons/year).

k = Total number of smelting furnaces at facility used for lead production.

(iii) Calculate and report under subpart C of this part (General Stationary Fuel Combustion Sources) the combustion CO_2 emissions from the smelting furnaces according to the applicable requirements in subpart C.

§ 98.184 Monitoring and QA/QC requirements.

If you determine process CO_2 emissions using the carbon mass balance procedure in § 98.183(b)(2)(i) and (b)(2)(ii), you must meet the requirements specified in paragraphs (a) and (b) of this section.

(a) Determine the annual mass for each material used for the calculations of annual process CO_2 emissions using Equation R–1 of this subpart by summing the monthly mass for the material determined for each month of the calendar year. The monthly mass may be determined using plant instruments used for accounting purposes, including either direct measurement of the quantity of the material placed in the unit or by calculations using process operating information.

(b) For each material identified in paragraph (a) of this section, you must determine the average carbon content of the material consumed or used in the calendar year using the methods specified in either paragraph (b)(1) or (b)(2) of this section. If you document that a specific process input or output contributes less than one percent of the total mass of carbon into or out of the process, you do not have to determine the monthly mass or annual carbon content of that input or output.

(1) Information provided by your material supplier.

(2) Collecting and analyzing at least three representative samples of the material each year. The carbon content of the material must be analyzed at least annually using the methods (and their QA/QC procedures) specified in paragraphs (b)(2)(i) through (b)(2)(iii) of this section, as applicable.

(i) ASTM E1941–04, Standard Test Method for Determination of Carbon in Refractory and Reactive Metals and Their Alloys (incorporated by reference, see § 98.7) for analysis of metal ore and alloy product.

(ii) ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, see § 98.7), for analysis of carbonaceous reducing agents and carbon electrodes.

(iii) ASTM C25–06, Standard Test Methods for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime (incorporated by reference, see § 98.7) for analysis of flux materials such as limestone or dolomite.

§ 98.185 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations in § 98.183 is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in the paragraphs (a) and (b) of this section. You must document and keep records of the procedures used for all such estimates.

(a) For each missing data for the carbon content for the smelting furnaces at your facility that estimate annual process CO_2 emissions using the carbon mass balance procedure in § 98.183(b)(2)(i) and (ii), 100 percent data availability is required. You must repeat the test for average carbon contents of inputs according to the procedures in § 98.184(b) if data are missing.

(b) For missing records of the monthly mass of carbon-containing materials, the substitute data value must be based the best available estimate of the mass of the material from all available process data or data used for accounting purposes (such as purchase records).

§ 98.186 Data reporting procedures.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) or (b) of this section, as applicable.

(a) If a CEMS is used to measure CO_2 emissions according to the requirements in § 98.183(a) or (b)(1), then you must report under this subpart the relevant information required by § 98.36 and the information specified in paragraphs (a)(1) through (a)(4) of this section.

(1) Identification number of each smelting furnace.

(2) Annual lead product production capacity (tons).

(3) Annual production for each lead product (tons).

(4) Total number of smelting furnaces at facility used for lead production.

(b) If a CEMS is not used to measure CO_2 emissions, and you measure CO_2 emissions according to the requirements in § 98.183(b)(2)(i) and (b)(2)(ii), then you must report the information specified in paragraphs (b)(1) through (b)(9) of this section.

(1) Identification number of each smelting furnace. (2) Annual process CO_2 emissions (in metric tons) from each smelting furnace as determined by Equation R–1 of this subpart.

(3) Annual lead product production capacity for the facility and each smelting furnace(tons).

(4) Annual production for each lead product (tons).

(5) Total number of smelting furnaces at facility used for production of lead products reported in paragraph (b)(4) of this section.

(6)–(7) [Reserved]

(8) List the method used for the determination of carbon content for each material used for the calculation of annual process CO_2 emissions using Equation R–1 of § 98.183 for each smelting furnace (e.g., supplier provided information, analyses of representative samples you collected).

(9) If you use the missing data procedures in § 98.185(b), you must report how the monthly mass of carbon-containing materials with missing data was determined and the number of months the missing data procedures were used.

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63792, Oct. 24, 2014]

§ 98.187 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records of the information specified in paragraphs (a) through (d) of this section, as applicable to the smelting furnaces at your facility.

(a) If a CEMS is used to measure combined process and combustion CO_2 emissions according to the requirements in § 98.183(a) or (b)(1), then you must retain the records required for the Tier 4 Calculation Methodology in § 98.37 and the information specified in paragraphs (a)(1) through (a)(3) of this section.

(1) Monthly smelting furnace production quantity for each lead product (tons).

(2) Number of smelting furnace operating hours each month.

(3) Number of smelting furnace operating hours in calendar year.

(b) If the carbon mass balance procedure is used to determine process CO_2 emissions according to the requirements in § 98.183(b)(2)(i) and (b)(2)(ii), then you must retain under this subpart the records specified in paragraphs (b)(1) through (b)(5) of this section.

(1) Monthly smelting furnace production quantity for each lead product (tons).

(2) Number of smelting furnace operating hours each month.

(3) Number of smelting furnace operating hours in calendar year.

(4) Monthly material quantity consumed, used, or produced for each material included for the calculations of annual process CO_2 emissions using Equation R–1 of this subpart (tons).

(5) Average carbon content determined and records of the supplier provided information or analyses used for the determination for each material included for the calculations of annual process CO_2 emissions using Equation R–1 of this subpart.

(c) You must keep records that include a detailed explanation of how company records of measurements are used to estimate the carbon input to

each smelting furnace, including documentation of any materials excluded from Equation R–1 of this subpart that contribute less than 1 percent of the total carbon into or out of the process. You also must document the procedures used to ensure the accuracy of the measurements of materials fed, charged, or placed in an smelting furnace including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

(d) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (d)(1) through (10) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (d)(1) through (10) of this section.

(1) Annual mass of lead ore charged to each smelting furnace (tons) (Equation R–1 of § 98.183).

(2) Carbon content of the lead ore per furnace, from the carbon analysis results (percent by weight, expressed as a decimal fraction) (Equation R–1).

(3) Annual mass of lead scrap charged to each smelting furnace (tons) (Equation R–1).

(4) Carbon content of the lead scrap per furnace, from the carbon analysis (percent by weight, expressed as a decimal fraction) (Equation R–1).

(5) Annual mass of flux materials (e.g., limestone, dolomite) charged to each smelting furnace (tons) (Equation R–1).

(6) Carbon content of the flux materials per furnace, from the carbon analysis (percent by weight, expressed as a decimal fraction) (Equation R–1).

(7) Annual mass of carbonaceous materials (e.g., coal, coke) charged to each smelting furnace (tons) (Equation R–1).

(8) Carbon content of the carbonaceous materials per furnace, from the carbon analysis (percent by weight, expressed as a decimal fraction) (Equation R–1).

(9) Annual mass of each other material containing carbon, other than fuel, fed, charged, or otherwise introduced into the smelting furnace (tons) (Equation R–1).

(10) Carbon content of each other material, from the carbon analysis results per furnace (percent by weight, expressed as a decimal fraction) (Equation R–1).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63792, Oct. 24, 2014]

§ 98.188 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart S—Lime Manufacturing

§ 98.190 Definition of the source category.

(a) Lime manufacturing plants (LMPs) engage in the manufacture of a lime product by calcination of limestone, dolomite, shells or other calcareous substances as defined in 40 CFR 63.7081(a)(1).

(b) This source category includes all LMPs unless the LMP is located at a kraft pulp mill, soda pulp mill, sulfite pulp mill, or only processes sludge containing calcium carbonate from water softening processes. The lime manufacturing source category consists of marketed and non-marketed lime manufacturing facilities.

(c) Lime kilns at pulp and paper manufacturing facilities must report emissions under subpart AA of this part (Pulp and Paper Manufacturing).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66464, Oct. 28, 2010; 78 FR 71958, Nov. 29, 2013]

§ 98.191 Reporting threshold.

You must report GHG emissions under this subpart if your facility is a lime manufacturing plant as defined in § 98.190 and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.192 GHGs to report.

You must report:

(a) CO_2 process emissions from lime kilns.

(b) CO_2 emissions from fuel combustion at lime kilns.

(c) N_2O and CH_4 emissions from fuel combustion at each lime kiln. You

must report these emissions under 40 CFR part 98, subpart C (General Stationary Fuel Combustion Sources).

(d) CO_2, N_2O, and CH_4 emissions from each stationary fuel combustion unit other than lime kilns. You must report these emissions under 40 CFR part 98, subpart C (General Stationary Fuel Combustion Sources).

(e) CO_2 collected and transferred off site under 40 CFR part 98, following the requirements of subpart PP of this part (Suppliers of Carbon Dioxide (CO_2)).

§ 98.193 Calculating GHG emissions.

You must calculate and report the annual process CO_2 emissions from all lime kilns combined using the procedure in paragraphs (a) and (b) of this section.

(a) If all lime kilns meet the conditions specified in § 98.33(b)(4)(ii) or (iii), you must calculate and report under this subpart the combined process and combustion CO_2 emissions from all lime kilns by operating and maintaining a CEMS to measure CO_2 emissions according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) If CEMS are not required to be used to determine CO_2 emissions from all lime kilns under paragraph (a) of this section, then you must calculate and report the process and combustion CO_2 emissions from the lime kilns by using the procedures in either paragraph (b)(1) or (b)(2) of this section.

(1) Calculate and report under this subpart the combined process and combustion CO_2 emissions from all lime kilns by operating and maintaining a CEMS to measure CO_2 emissions from all lime kilns according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(2) Calculate and report process and combustion CO_2 emissions from all lime kilns separately using the procedures specified in paragraphs (b)(2)(i) through (v) of this section.

(i) You must calculate a monthly emission factor for each type of lime produced using Equation S–1 of this section. Calcium oxide and magnesium oxide content must be analyzed monthly for each lime product type that is produced:

$$EF_{LIME,i,n} = \left[\left(SR_{CaO} * CaO_{i,n}\right) + \left(SR_{MgO} * MgO_{i,n}\right)\right] * \frac{2000}{2205} \qquad \text{(Eq. S-1)}$$

Where:

$EF_{LIME,i,n}$ = Emission factor for lime type i, for month n (metric tons CO_2/ton lime).

SR_{CaO} = Stoichiometric ratio of CO_2 and CaO for calcium carbonate [see Table S–1 of this subpart] (metric tons CO_2/metric tons CaO).

SR_{MgO} = Stoichiometric ratio of CO_2 and MgO for magnesium carbonate (See Table S–1 of this subpart) (metric tons CO_2/metric tons MgO).

$CaO_{i,n}$ = Calcium oxide content for lime type i, for month n, determined according to § 98.194(c) (metric tons CaO/metric ton lime).

$MgO_{i,n}$ = Magnesium oxide content for lime type i, for month n, determined according to § 98.194(c) (metric tons MgO/metric ton lime).

2000/2205 = Conversion factor for tons to metric tons.

(ii) You must calculate a monthly emission factor for each type of calcined byproduct or waste sold (including lime kiln dust) using Equation S–2 of this section:

$$EF_{LKD,i,n} = \left[\left(SR_{CaO} * CaO_{LKD,i,n}\right) + \left(SR_{MgO} * MgO_{LKD,i,n}\right)\right] * \frac{2000}{2205} \qquad \text{(Eq. S-2)}$$

Where:

$EF_{LKD,i,n}$ = Emission factor for calcined lime byproduct/waste type i sold, for month n (metric tons CO_2/ton lime byproduct).

SR_{CaO} = Stoichiometric ratio of CO_2 and CaO for calcium carbonate (see Table S–1 of this subpart((metric tons CO_2/metric tons CaO).

SR_{MgO} = Stoichiometric ratio of CO_2 and MgO for magnesium carbonate (See Table S–1 of this subpart) (metric tons CO_2/metric tons MgO).

$CaO_{LKD,i,n}$ = Calcium oxide content for calcined lime byproduct/waste type i sold, for month n (metric tons CaO/metric ton lime).

$MgO_{LKD,i,n}$ = Magnesium oxide content for calcined lime byproduct/waste type i sold, for month n (metric tons MgO/metric ton lime).

2000/2205 = Conversion factor for tons to metric tons.

(iii) You must calculate the annual CO_2 emissions from each type of calcined byproduct or waste that is not sold (including lime kiln dust and scrubber sludge) using Equation S–3 of this section:

$$E_{waste,i} = \left[\left(SR_{CaO} * CaO_{waste,i}\right) + \left(SR_{MgO} * MgO_{waste,i}\right)\right] * M_{waste,i} * \frac{2000}{2205} \qquad \text{(Eq. S-3)}$$

Where:

$E_{waste,i}$ = Annual CO_2 emissions for calcined lime byproduct or waste type i that is not sold (metric tons CO_2).

SR_{CaO} = Stoichiometric ratio of CO_2 and CaO for calcium carbonate (see Table S–1 of this subpart) (metric tons CO_2/metric tons CaO).

SR_{MgO} = Stoichiometric ratio of CO_2 and MgO for magnesium carbonate (See Table S–1 of this subpart) (metric tons CO_2/metric tons MgO).

$CaO_{waste,i}$ = Calcium oxide content for calcined lime byproduct or waste type i that is not sold (metric tons CaO/metric ton lime).

$MgO_{waste,i}$ = Magnesium oxide content for calcined lime byproduct or waste type i that is not sold (metric tons MgO/metric ton lime).

$M_{waste,i}$ = Annual weight or mass of calcined byproducts or wastes for lime type i that is not sold (tons).

2000/2205 = Conversion factor for tons to metric tons.

(iv) You must calculate annual CO_2 process emissions for all lime kilns using Equation S–4 of this section:

$$E_{CO_2} \sum_{i=1}^{t} \sum_{n=1}^{12} \left(EF_{LIME,i,n} * M_{LIME,i,n}\right) + \sum_{i=1}^{b} \sum_{n=1}^{12} EF_{LKD,i,n} * M_{LKD,i,n}\right) + \sum_{i=1}^{z} E_{waste,i} \qquad \text{(Eq. S-4)}$$

Where:

E_{CO2} = Annual CO_2 process emissions from lime production from all lime kilns (metric tons/year).

$EF_{LIME,i,n}$ = Emission factor for lime type i produced, in calendar month n (metric tons CO_2/ton lime) from Equation S–1 of this section.

$M_{LIME,i,n}$ = Weight or mass of lime type i produced in calendar month n (tons).

$EF_{LKD,i,n}$ = Emission factor of calcined byproducts or wastes sold for lime type i in calendar month n, (metric tons CO_2/ton byproduct or waste) from Equation S–2 of this section.

$M_{LKD,i,n}$ = Monthly weight or mass of calcined byproducts or waste sold (such as lime kiln dust, LKD) for lime type i in calendar month n (tons).

$E_{waste,i}$ = Annual CO_2 emissions for calcined lime byproduct or waste type i that is not sold (metric tons CO_2) from Equation S–3 of this section.

t = Number of lime types produced

b = Number of calcined byproducts or wastes that are sold.

z = Number of calcined byproducts or wastes that are not sold.

(v) Calculate and report under subpart C of this part (General Stationary Fuel Combustion Sources) the combustion CO_2 emissions from each lime kiln according to the applicable requirements in subpart C.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66464, Oct. 28, 2010; 78 FR 71958, Nov. 29, 2013]

§ 98.194 Monitoring and QA/QC requirements.

(a) You must determine the total quantity of each type of lime product that is produced and each calcined byproduct or waste (such as lime kiln dust) that is sold. The quantities of each should be directly measured monthly with the same plant instruments used for accounting purposes, including but not limited to, calibrated weigh feeders, rail or truck scales, and barge measurements. The direct measurements of each lime product shall be reconciled annually with the difference in the beginning of and end of year inventories for these products, when measurements represent lime sold.

(b) You must determine the annual quantity of each calcined byproduct or waste generated that is not sold by either direct measurement using the same instruments identified in paragraph (a) of this section or by using a calcined byproduct or waste generation rate.

(c) You must determine the chemical composition (percent total CaO and percent total MgO) of each type of lime product that is produced and each type of calcined byproduct or waste sold according to paragraph (c)(1) or (2) of this section. You must determine the chemical composition of each type of lime product that is produced and each type of calcined byproduct or waste sold on a monthly basis. You must determine the chemical composition for each type of calcined byproduct or waste that is not sold on an annual basis.

(1) ASTM C25–06 Standard Test Methods for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime (incorporated by reference—*see* § 98.7).

(2) The National Lime Association's CO_2 Emissions Calculation Protocol for the Lime Industry English Units Version, February 5, 2008 Revision-National Lime Association (incorporated by reference—see § 98.7).

(d) You must use the analysis of calcium oxide and magnesium oxide content of each lime product that is produced and that is collected during the same month as the production data in monthly calculations.

(e) You must follow the quality assurance/quality control procedures (including documentation) in National Lime Association's CO_2 Emissions Calculation Protocol for the Lime Industry English Units Version, February 5, 2008 Revision—National Lime Association (incorporated by reference—*see* § 98.7).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66465, Oct. 28, 2010; 78 FR 71958, Nov. 29, 2013]

§ 98.195 Procedures for estimating missing data.

For the procedure in § 98.193(b)(1), a complete record of all measured parameters used in the GHG emissions calculations is required (e.g., oxide content, quantity of lime products, etc.). Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in paragraphs (a) or (b) of this section. You must document and keep records of the procedures used for all such estimates.

(a) For each missing value of the quantity of lime produced (by lime type), and quantity of calcined byproduct or waste produced and sold, the substitute data value shall be the best available estimate based on all available process data or data used for accounting purposes.

(b) For missing values related to the CaO and MgO content, you must conduct a new composition test according to the standard methods in § 98.194 (c)(1) or (c)(2).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66465, Oct. 28, 2010; 78 FR 71959, Nov. 29, 2013]

§ 98.196 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) or (b) of this section, as applicable.

(a) If a CEMS is used to measure CO_2 emissions, then you must report under this subpart the relevant information required by § 98.36 and the information listed in paragraphs (a)(1) through (8) of this section.

(1) Method used to determine the quantity of lime that is produced and quantity of lime that is sold.

(2) Method used to determine the quantity of calcined lime byproduct or waste sold.

(3) Beginning and end of year inventories for each lime product that is produced, by type.

(4) Beginning and end of year inventories for calcined lime byproducts or wastes sold, by type.

(5) Annual amount of calcined lime byproduct or waste sold, by type (tons).

(6) Annual amount of lime product sold, by type (tons).

(7) Annual amount of calcined lime byproduct or waste that is not sold, by type (tons).

(8) Annual amount of lime product not sold, by type (tons).

(b) If a CEMS is not used to measure CO_2 emissions, then you must report the information listed in paragraphs (b)(1) through (18) of this section.

(1) Annual CO_2 process emissions from all lime kilns combined (metric tons).

(2)–(3) [Reserved]

(4) Standard method used (ASTM or NLA testing method) to determine chemical compositions of each lime type produced and each calcined lime byproduct or waste type.

(5)–(6) [Reserved]

(7) Method used to determine the quantity of lime produced and/or lime sold.

(8) [Reserved]

(9) Method used to determine the quantity of calcined lime byproduct or waste sold.

(10)–(12) [Reserved]

(13) Beginning and end of year inventories for each lime product that is produced.

(14) Beginning and end of year inventories for calcined lime byproducts or wastes sold.

(15) Annual lime production capacity (tons) per facility.

(16) Number of times in the reporting year that missing data procedures were followed to measure lime production (months) or the chemical composition of lime products sold (months).

(17) Indicate whether CO_2 was used on-site (i.e. for use in a purification process). If CO_2 was used on-site, provide the information in paragraphs (b)(17)(i) and (ii) of this section.

(i) The annual amount of CO_2 captured for use in the on-site process.

(ii) The method used to determine the amount of CO_2 captured.

(18) Annual quantity (tons) of lime product sold, by type.

[75 FR 66465, Oct. 28, 2010, as amended at 78 FR 71959, Nov. 29, 2013; 79 FR 63792, Oct. 24, 2014]

§ 98.197 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) through (c) of this section.

(a) Annual operating hours in calendar year.

(b) Records of all analyses (e.g. chemical composition of lime products, by type) and calculations conducted.

(c) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (c)(1) through (9) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (c)(1) through (9) of this section.

(1) Monthly calcium oxide content for each lime type, determined according to § 98.194(c) (metric tons CaO/metric ton lime) (Equation S–1 of § 98.193).

(2) Monthly magnesium oxide content for each lime type, determined according to § 98.194(c) (metric tons MgO/metric ton lime) (Equation S–1).

(3) Monthly calcium oxide content for each calcined lime byproduct or waste type sold (metric tons CaO/metric ton lime) (Equation S–2 of § 98.193).

(4) Monthly magnesium oxide content for each calcined lime byproduct or waste type sold (metric tons MgO/metric ton lime) (Equation S–2).

(5) Calcium oxide content for each calcined lime byproduct or waste type that is not sold (metric tons CaO/metric ton lime) (Equation S–3 of § 98.193).

(6) Magnesium oxide content for each calcined lime byproduct or waste type that is not sold (metric tons MgO/metric ton lime) (Equation S–3).

(7) Annual weight or mass of calcined byproducts or wastes for lime type that is not sold (tons) (Equation S–3).

(8) Monthly weight or mass of each lime type produced (tons) (Equation S–4 of § 98.193).

(9) Monthly weight or mass of each calcined byproducts or wastes sold (tons) (Equation S–4).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63792, Oct. 24, 2014]

§ 98.198 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE S–1 TO SUBPART S OF PART 98—BASIC PARAMETERS FOR THE CALCULATION OF EMISSION FACTORS FOR LIME PRODUCTION

Variable	Stoichiometric ratio
SR_{CaO}	0.7848
SR_{MgO}	1.0918

Subpart T—Magnesium Production

SOURCE: 75 FR 39761, July 12, 2010, unless otherwise noted.

§ 98.200 Definition of source category.

The magnesium production and processing source category consists of the following processes:

(a) Any process in which magnesium metal is produced through smelting (including electrolytic smelting), refining, or remelting operations.

(b) Any process in which molten magnesium is used in alloying, casting, drawing, extruding, forming, or rolling operations.

§ 98.201 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a magnesium production process and the facility meets the requirements of either § 98.2(a)(1) or (2).

§ 98.202 GHGs to report.

(a) You must report emissions of the following gases in metric tons per year resulting from their use as cover gases or carrier gases in magnesium production or processing:

(1) Sulfur hexafluoride (SF_6).

(2) HFC–134a.

(3) The fluorinated ketone, FK 5–1–12.

(4) Carbon dioxide (CO_2).

(5) Any other GHGs (as defined in § 98.6).

(b) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the CO_2, N_2O, and CH_4 emissions from each combustion unit by following the requirements of subpart C.

§ 98.203 Calculating GHG emissions.

(a) Calculate the mass of each GHG emitted from magnesium production or processing over the calendar year using either Equation T–1 or Equation T–2 of this section, as appropriate. Both of these equations equate emissions of cover gases or carrier gases to consumption of cover gases or carrier gases.

(1) To estimate emissions of cover gases or carrier gases by monitoring changes in container masses and inventories, emissions of each cover gas or carrier gas shall be estimated using Equation T–1 of this section:

$$E_x = \left(I_{B,x} - I_{E,x} + A_x - D_x\right) * 0.001 \qquad \text{(Eq. T-1)}$$

Where:

E_X = Emissions of each cover gas or carrier gas, X, in metric tons over the reporting year.

$I_{B,x}$ = Inventory of each cover gas or carrier gas stored in cylinders or other containers at the beginning of the year, including heels, in kg.

$I_{E,x}$ = Inventory of each cover gas or carrier gas stored in cylinders or other containers at the end of the year, including heels, in kg.

A_X = Acquisitions of each cover gas or carrier gas during the year through purchases or other transactions, including heels in cylinders or other containers returned to the magnesium production or processing facility, in kg.

D_X = Disbursements of each cover gas or carrier gas to sources and locations outside

the facility through sales or other transactions during the year, including heels in cylinders or other containers returned by the magnesium production or processing facility to the gas supplier, in kg.

0.001 = Conversion factor from kg to metric tons

X = Each cover gas or carrier gas that is a GHG.

(2) To estimate emissions of cover gases or carrier gases by monitoring changes in the masses of individual containers as their contents are used, emissions of each cover gas or carrier gas shall be estimated using Equation T–2 of this section:

$$E_{GHG} = \sum_{p=1}^{n} Q_p * 0.001 \qquad \text{(Eq. T-2)}$$

Where:

E_{GHG} = Emissions of each cover gas or carrier gas, X, over the reporting year (metric tons).

Q_p = The mass of the cover or carrier gas consumed (kg) over the container-use period p, from Equation T–3 of this section.

n = The number of container-use periods in the year.

0.001 = Conversion factor from kg to metric tons.

X = Each cover gas or carrier gas that is a GHG.

(b) For purposes of Equation T–2 of this section, the mass of the cover gas used over the period p for an individual container shall be estimated by using Equation T–3 of this section:

$$Q_p = M_B - M_E \qquad \text{(Eq. T-3)}$$

Where:

Q_p = The mass of the cover or carrier gas consumed (kg) over the container-use period p (*e.g.*, one month).

M_B = The mass of the container's contents (kg) at the beginning of period p.

M_E = The mass of the container's contents (kg) at the end of period p.

(c) If a facility has mass flow controllers (MFC) and the capacity to track and record MFC measurements to estimate total gas usage, the mass of each cover or carrier gas monitored may be used as the mass of cover or carrier gas consumed (Q_p), in kg for period p in Equation T–2 of this section.

§ 98.204 Monitoring and QA/QC requirements.

(a) For calendar year 2011 monitoring, the facility may submit a request to the Administrator to use one or more best available monitoring methods as listed in § 98.3(d)(1)(i) through (iv). The request must be submitted no later than October 12, 2010 and must contain the information in § 98.3(d)(2)(ii). To obtain approval, the request must demonstrate to the Administrator's satisfaction that it is not reasonably feasible to acquire, install, and operate a required piece of monitoring equipment by January 1, 2011. The use of best available monitoring methods will not be approved beyond December 31, 2011.

(b) Emissions (consumption) of cover gases and carrier gases may be estimated by monitoring the changes in container weights and inventories using Equation T–1 of this subpart, by monitoring the changes in individual container weights as the contents of each container are used using Equations T–2 and T–3 of this subpart, or by monitoring the mass flow of the pure cover gas or carrier gas into the gas distribution system. Emissions must be estimated at least annually.

(c) When estimating emissions by monitoring the mass flow of the pure cover gas or carrier gas into the gas distribution system, you must use gas flow meters, or mass flow controllers, with an accuracy of 1 percent of full scale or better.

(d) When estimating emissions using Equation T–1 of this subpart, you must ensure that all the quantities required by Equation T–1 of this subpart have been measured using scales or load cells with an accuracy of 1 percent of full scale or better, accounting for the tare weights of the containers. You may accept gas masses or weights provided by the gas supplier *e.g.*, for the contents of containers containing new gas or for the heels remaining in containers returned to the gas supplier) if the supplier provides documentation verifying that accuracy standards are met; however you remain responsible for the accuracy of these masses or weights under this subpart.

(e) When estimating emissions using Equations T–2 and T–3 of this subpart,

you must monitor and record container identities and masses as follows:

(1) Track the identities and masses of containers leaving and entering storage with check-out and check-in sheets and procedures. The masses of cylinders returning to storage shall be measured immediately before the cylinders are put back into storage.

(2) Ensure that all the quantities required by Equations T–2 and T–3 of this subpart have been measured using scales or load cells with an accuracy of 1 percent of full scale or better, accounting for the tare weights of the containers. You may accept gas masses or weights provided by the gas supplier *e.g.*, for the contents of cylinders containing new gas or for the heels remaining in cylinders returned to the gas supplier) if the supplier provides documentation verifying that accuracy standards are met; however, you remain responsible for the accuracy of these masses or weights under this subpart.

(f) All flowmeters, scales, and load cells used to measure quantities that are to be reported under this subpart shall be calibrated using calibration procedures specified by the flowmeter, scale, or load cell manufacturer. Calibration shall be performed prior to the first reporting year. After the initial calibration, recalibration shall be performed at the minimum frequency specified by the manufacturer.

§ 98.205 Procedures for estimating missing data.

(a) A complete record of all measured parameters used in the GHG emission calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter will be used in the calculations as specified in paragraph (b) of this section.

(b) Replace missing data on the emissions of cover or carrier gases by multiplying magnesium production during the missing data period by the average cover or carrier gas usage rate from the most recent period when operating conditions were similar to those for the period for which the data are missing. Calculate the usage rate for each cover or carrier gas using Equation T–4 of this section:

$$R_{GHG} = C_{GHG} / Mg * 0.001 \qquad \text{(Eq. T-4)}$$

Where:

R_{GHG} = The usage rate for a particular cover or carrier gas over the period of comparable operation (metric tons gas/metric ton Mg).

C_{GHG} = The consumption of that cover or carrier gas over the period of comparable operation (kg).

Mg = The magnesium produced or fed into the process over the period of comparable operation (metric tons).

0.001 = Conversion factor from kg to metric tons.

(c) If the precise before and after weights are not available, it should be assumed that the container was emptied in the process (*i.e.*, quantity purchased should be used, less heel).

§ 98.206 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must include the following information at the facility level:

(a) Emissions of each cover or carrier gas in metric tons.

(b) Types of production processes at the facility (*e.g.*, primary, secondary, die casting).

(c) Amount of magnesium produced or processed in metric tons for each process type. This includes the output of primary and secondary magnesium production processes and the input to magnesium casting processes.

(d) Cover and carrier gas flow rate (*e.g.*, standard cubic feet per minute) for each production unit and composition in percent by volume.

(e) For any missing data, you must report the length of time the data were missing for each cover gas or carrier gas, the method used to estimate emissions in their absence, and the quantity of emissions thereby estimated.

(f) The annual cover gas usage rate for the facility for each cover gas, excluding the carrier gas (kg gas/metric ton Mg).

(g) If applicable, an explanation of any change greater than 30 percent in the facility's cover gas usage rate (*e.g.*, installation of new melt protection technology or leak discovered in the

cover gas delivery system that resulted in increased emissions).

(h) A description of any new melt protection technologies adopted to account for reduced or increased GHG emissions in any given year.

§ 98.207 Records that must be retained.

In addition to the records specified in § 98.3(g), you must retain the following information at the facility level:

(a) Check-out and weigh-in sheets and procedures for gas cylinders.

(b) Accuracy certifications and calibration records for scales including the method or manufacturer's specification used for calibration.

(c) Residual gas amounts (heel) in cylinders sent back to suppliers.

(d) Records, including invoices, for gas purchases, sales, and disbursements for all GHGs.

§ 98.208 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part. Additionally, some sector-specific definitions are provided below:

Carrier gas means the gas with which cover gas is mixed to transport and dilute the cover gas thus maximizing its efficient use. Carrier gases typically include CO_2, N_2, and/or dry air.

Cover gas means SF_6, HFC–134a, fluorinated ketone (FK 5–1–12) or other gas used to protect the surface of molten magnesium from rapid oxidation and burning in the presence of air. The molten magnesium may be the surface of a casting or ingot production operation or the surface of a crucible of molten magnesium that feeds a casting operation.

Subpart U—Miscellaneous Uses of Carbonate

§ 98.210 Definition of the source category.

(a) This source category includes any equipment that uses carbonates listed in Table U–1 in manufacturing processes that emit carbon dioxide. Table U–1 includes the following carbonates: limestone, dolomite, ankerite, magnesite, siderite, rhodochrosite, or sodium carbonate. Facilities are considered to emit CO_2 if they consume at least 2,000 tons per year of carbonates heated to a temperature sufficient to allow the calcination reaction to occur.

(b) This source category does not include equipment that uses carbonates or carbonate containing minerals that are consumed in the production of cement, glass, ferroalloys, iron and steel, lead, lime, phosphoric acid, pulp and paper, soda ash, sodium bicarbonate, sodium hydroxide, or zinc.

(c) This source category does not include carbonates used in sorbent technology used to control emissions from stationary fuel combustion equipment. Emissions from carbonates used in sorbent technology are reported under 40 CFR 98, subpart C (Stationary Fuel Combustion Sources).

§ 98.211 Reporting threshold.

You must report GHG emissions from miscellaneous uses of carbonate if your facility uses carbonates as defined in § 98.210 of this subpart and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.212 GHGs to report.

You must report CO_2 process emissions from all miscellaneous carbonate use at your facility as specified in this subpart.

§ 98.213 Calculating GHG emissions.

You must determine CO_2 process emissions from carbonate use in accordance with the procedures specified in either paragraphs (a) or (b) of this section.

(a) Calculate the process emissions of CO_2 using calcination fractions with Equation U–1 of this section.

$$E_{CO_2} = \sum_{i=1}^{n} M_i * EF_i * F_i * \frac{2000}{2205} \qquad \text{(Eq. U-1)}$$

Where:

E_{CO_2} = Annual CO_2 mass emissions from consumption of carbonates (metric tons).

M_i = Annual mass of carbonate type i consumed (tons).

EF_i = Emission factor for the carbonate type i, as specified in Table U–1 to this subpart, metric tons CO_2/metric ton carbonate consumed.

F_i = Fraction calcination achieved for each particular carbonate type i (decimal fraction). As an alternative to measuring the calcination fraction, a value of 1.0 can be used.

n = Number of carbonate types.

2000/2205 = Conversion factor to convert tons to metric tons.

(b) Calculate the process emissions of CO_2 using actual mass of output carbonates with Equation U–2 of this section.

$$E_{CO_2} = \left[\sum_{k=1}^{m} \left(M_k * EF_k\right) - \sum_{j=1}^{n} \left(M_j * EF_j\right) \right] * \frac{2000}{2205} \qquad \text{(Eq. U-2)}$$

Where:

E_{CO_2} = Annual CO_2 mass emissions from consumption of carbonates (metric tons).

M_k = Annual mass of input carbonate type k (tons).

EF_k = Emission factor for the carbonate type k, as specified in Table U–1 of this subpart (metric tons CO_2/metric ton carbonate input).

M_j = Annual mass of output carbonate type j (tons).

EF_j = Emission factor for the output carbonate type j, as specified in Table U–1 of this subpart (metric tons CO_2/metric ton carbonate input).

m = Number of input carbonate types.

n = Number of output carbonate types.

§ 98.214 Monitoring and QA/QC requirements.

(a) The annual mass of carbonate consumed (for Equation U–1 of this subpart) or carbonate inputs (for Equation U–2 of this subpart) must be determined annually from monthly measurements using the same plant instruments used for accounting purposes including purchase records or direct measurement, such as weigh hoppers or weigh belt feeders.

(b) The annual mass of carbonate outputs (for Equation U–2 of this subpart) must be determined annually from monthly measurements using the same plant instruments used for accounting purposes including purchase records or direct measurement, such as weigh hoppers or belt weigh feeders.

(c) If you follow the procedures of § 98.213(a), as an alternative to assuming a calcination fraction of 1.0, you can determine on an annual basis the calcination fraction for each carbonate consumed based on sampling and chemical analysis using a suitable method such as using an x-ray fluorescence standard method or other enhanced industry consensus standard method published by an industry consensus standard organization (e.g., ASTM, ASME, etc.).

§ 98.215 Procedures for estimating missing data.

(a) A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in paragraph (b) of this section. You must document and keep records of the procedures used for all such estimates.

(b) For each missing value of monthly carbonate consumed, monthly carbonate output, or monthly carbonate input, the substitute data value must be the best available estimate based on

the all available process data or data used for accounting purposes.

§ 98.216 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) through (g) of this section at the facility level, as applicable.

(a) Annual CO_2 emissions from miscellaneous carbonate use (metric tons).

(b) [Reserved]

(c) Measurement method used to determine the mass of carbonate.

(d) Method used to calculate emissions.

(e) If you followed the calculation method of § 98.213(b)(1)(i), you must report the information in paragraphs (e)(1) through (e)(3) of this section.

(1)–(2) [Reserved]

(3) If you determined the calcination fraction, indicate which standard method was used.

(f) [Reserved]

(g) Number of times in the reporting year that missing data procedures were followed to measure carbonate consumption, carbonate input or carbonate output (months).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63792, Oct. 24, 2014]

§ 98.217 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) through (e) of this section:

(a) Monthly carbonate consumption (by carbonate type in tons).

(b) You must document the procedures used to ensure the accuracy of the monthly measurements of carbonate consumption, carbonate input or carbonate output including, but not limited to, calibration of weighing equipment and other measurement devices.

(c) Records of all analyses conducted to meet the requirements of this rule.

(d) Records of all calculations conducted.

(e) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (e)(1) through (4) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (e)(1) through (4) of this section.

(1) Fraction calcination achieved for each particular carbonate type. As an alternative to measuring the calcination fraction, a value of 1.0 can be used (decimal fraction) (Equation U–1 of § 98.213).

(2) Annual mass of each carbonate type consumed (tons) (Equation U–1).

(3) Annual mass of each input carbonate type (tons) (Equation U–2 of § 98.213).

(4) Annual mass of each output carbonate type (tons) (Equation U–2).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63793, Oct. 24, 2014]

§ 98.218 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE U–1 TO SUBPART U OF PART 98—CO_2 EMISSION FACTORS FOR COMMON CARBONATES

Mineral name—carbonate	CO_2 emission factor (tons CO_2/ton carbonate)
Limestone—$CaCO_3$	0.43971
Magnesite—$MgCO_3$	0.52197
Dolomite—$CaMg(CO_3)_2$	0.47732
Siderite—$FeCO_3$	0.37987
Ankerite—$Ca(Fe, Mg, Mn)(CO_3)_2$	0.47572
Rhodochrosite—$MnCO_3$	0.38286
Sodium Carbonate/Soda Ash—Na_2CO_3	0.41492

Subpart V—Nitric Acid Production

§ 98.220 Definition of source category.

A nitric acid production facility uses one or more trains to produce weak nitric acid (30 to 70 percent in strength). A nitric acid train produces weak nitric acid through the catalytic oxidation of ammonia.

§ 98.221 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a nitric acid train and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.222 GHGs to report.

(a) You must report N_2O process emissions from each nitric acid train as required by this subpart.

(b) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, CH_4, and N_2O from each stationary combustion unit by following the requirements of subpart C.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71959, Nov. 29, 2013]

§ 98.223 Calculating GHG emissions.

(a) You must determine annual N_2O process emissions from each nitric acid train according to paragraphs (a)(1) or (a)(2) of this section.

(1) Use a site-specific emission factor and production data according to paragraphs (b) through (i) of this section.

(2) Request Administrator approval for an alternative method of determining N_2O emissions according to paragraphs (a)(2)(i) and (a)(2)(ii) of this section.

(i) You must submit the request within 45 days following promulgation of this subpart or within the first 30 days of each subsequent reporting year.

(ii) If the Administrator does not approve your requested alternative method within 150 days of the end of the reporting year, you must determine the N_2O emissions for the current reporting period using the procedures specified in paragraph (a)(1) of this section.

(b) You must conduct an annual performance test for each nitric acid train according to paragraphs (b)(1) through (3) of this section.

(1) You must conduct the performance test at the absorber tail gas vent, referred to as the test point, for each nitric acid train according to § 98.224(b) through (f). If multiple nitric acid trains exhaust to a common abatement technology and/or emission point, you must sample each process in the ducts before the emissions are combined, sample each process when only one process is operating, or sample the combined emissions when multiple processes are operating and base the site-specific emission factor on the combined production rate of the multiple nitric acid trains.

(2) You must conduct the performance test under normal process operating conditions.

(3) You must measure the production rate during the performance test and calculate the production rate for the test period in tons (100 percent acid basis) per hour.

(c) Using the results of the performance test in paragraph (b) of this section, you must calculate an average site-specific emission factor for each nitric acid train ''t'' according to Equation V–1 of this section:

$$EF_{N2Ot} = \frac{\sum_{1}^{n} \frac{C_{N2O} * 1.14 \times 10^{-7} * Q}{P}}{n} \qquad \text{(Eq. V-1)}$$

where:

EF_{N_2Ot} = Average site-specific N_2O emissions factor for nitric acid train ''t'' (lb N_2O/ton nitric acid produced, 100 percent acid basis).

C_{N2O} = N_2O concentration for each test run during the performance test (ppm N_2O).

1.14×10^{-7} = Conversion factor (lb/dscf-ppm N_2O).

Q = Volumetric flow rate of effluent gas for each test run during the performance test (dscf/hr).

P = Production rate for each test run during the performance test (tons nitric acid produced per hour, 100 percent acid basis).

n = Number of test runs.

(d) If nitric acid train ''t'' exhausts to any N_2O abatement technology ''N'', you must determine the destruction efficiency for each N_2O abatement technology ''N'' according to paragraphs (d)(1), (2), or (3) of this section.

(1) Use the manufacturer's specified destruction efficiency.

(2) Estimate the destruction efficiency through process knowledge. Examples of information that could constitute process knowledge include calculations based on material balances, process stoichiometry, or previous test results provided the results are still relevant to the current vent stream conditions. You must document how process knowledge (if applicable) was used to determine the destruction efficiency.

(3) Calculate the destruction efficiency by conducting an additional performance test on the emissions stream following the N_2O abatement technology.

(e) If nitric acid train ''t'' exhausts to any N_2O abatement technology ''N'', you must determine the annual amount of nitric acid produced on nitric acid train ''t'' while N_2O abatement technology ''N'' is operating according to §98.224(f). Then you must calculate the abatement utilization factor for each N_2O abatement technology ''N'' for each nitric acid train ''t'' according to Equation V–2 of this section.

$$AF_{t,N} = \frac{P_{t,N}}{P_t} \qquad \text{(Eq. V-2)}$$

where:

$AF_{t,N}$ = Abatement utilization factor of N_2O abatement technology ''N'' at nitric acid train ''t'' (fraction of annual production that abatement technology is operating).

P_t = Total annual nitric acid production from nitric acid train ''t'' (ton acid produced, 100 percent acid basis).

$P_{t,N}$ = Annual nitric acid production from nitric acid train ''t'' during which N_2O abatement technology ''N'' was operational (ton acid produced, 100 percent acid basis).

(f) [Reserved]

(g) You must calculate N_2O emissions for each nitric acid train ''t'' according to paragraph (g)(1), (g)(2), (g)(3), or (g)(4) of this section.

(1) If nitric acid train ''t'' exhausts to one N_2O abatement technology ''N'' after the test point, you must use the emissions factor (determined in Equation V–1 of this section), the destruction efficiency (determined in paragraph (d) of this section), the annual nitric acid production (determined in paragraph (i) of this section), and the abatement utilization factor (determined in paragraph (e) of this section) according to Equation V–3a of this section:

$$E_{N2Ot} = \frac{EF_{N20t} * P_t}{2205} * \left(1 - \left(DF * AF\right)\right) \qquad \text{(Eq. V-3a)}$$

where:

E_{N_2Ot} = Annual N_2O mass emissions from nitric acid train ''t'' according to this Equation V–3a (metric tons).

EF_{N_2Ot} = Average site-specific N_2O emissions factor for nitric acid train ''t'' (lb N_2O/ton acid produced, 100 percent acid basis).

P_t = Annual nitric acid production from nitric acid train ''t'' (ton acid produced, 100 percent acid basis).

DF = Destruction efficiency of N_2O abatement technology N that is used on nitric acid train ''t'' (decimal fraction of N_2O removed from vent stream).

AF = Abatement utilization factor of N_2O abatement technology ''N'' for nitric acid train ''t'' (decimal fraction of annual production during which abatement technology is operating).

2205 = Conversion factor (lb/metric ton).

(2) If multiple N_2O abatement technologies are located in series after your test point, you must use the emissions factor (determined in Equation V–1 of this section), the destruction efficiency (determined in paragraph (d) of this section), the annual nitric acid production (determined in paragraph (i) of this section), and the abatement utilization factor (determined in paragraph (e) of this section), according to Equation V–3b of this section:

$$E_{N2Ot} = \frac{EF_{N20,t} * P_t}{2205} * \left(1 - \left(DF_1 * AF_1\right)\right) * \left(1 - \left(DF_2 * AF_2\right)\right) * \ldots * \left(1 - \left(DF_N * AF_N\right)\right) \qquad \text{(Eq. V-3b)}$$

where:

E_{N_2Ot} = Annual N_2O mass emissions from nitric acid train ''t'' according to this Equation V–3b (metric tons).

$EF_{N2O,t}$ = N_2O emissions factor for nitric acid train ''t'' (lb N_2O/ton nitric acid produced).

P_t = Annual nitric acid produced from nitric acid train ''t'' (ton acid produced, 100 percent acid basis).

DF_1 = Destruction efficiency of N_2O abatement technology 1 (decimal fraction of N_2O removed from vent stream).

AF_1 = Abatement utilization factor of N_2O abatement technology 1 (decimal fraction of time that abatement technology 1 is operating).

DF_2 = Destruction efficiency of N_2O abatement technology 2 (decimal fraction of N_2O removed from vent stream).

AF_2 = Abatement utilization factor of N_2O abatement technology 2 (decimal fraction of time that abatement technology 2 is operating).

DF_N = Destruction efficiency of N_2O abatement technology N (decimal fraction of N_2O removed from vent stream).

AF_N = Abatement utilization factor of N_2O abatement technology N (decimal fraction of time that abatement technology N is operating).

2205 = Conversion factor (lb/metric ton).

N = Number of different N_2O abatement technologies.

(3) If multiple N_2O abatement technologies are located in parallel after your test point, you must use the emissions factor (determined in Equation V–1 of this section), the destruction efficiency (determined in paragraph (d) of this section), the annual nitric acid production (determined in paragraph (i) of this section), and the abatement utilization factor (determined in paragraph (e) of this section), according to Equation V–3c of this section:

$$E_{N2Ot} = \frac{EF_{N20,t} * P_t}{2205} * \sum_{1}^{N} \left(\left(1 - \left(DF_N * AF_N\right)\right) * FC_N\right) \qquad \text{(Eq. V-3c)}$$

where:

E_{N_2Ot} = Annual N_2O mass emissions from nitric acid train ''t'' according to this Equation V–3c (metric tons).

$EF_{N2O,t}$ = N_2O emissions factor for nitric acid train ''t'' (lb N_2O/ton nitric acid produced).

P_t = Annual nitric acid produced from nitric acid train ''t'' (ton acid produced, 100 percent acid basis).

DF_N = Destruction efficiency of N_2O abatement technology ''N'' (decimal fraction of N_2O removed from vent stream).

AF_N = Abatement utilization factor of N_2O abatement technology ''N'' (decimal fraction of time that abatement technology ''N'' is operating).

FC_N = Fraction control factor of N_2O abatement technology ''N'' (decimal fraction of total emissions from nitric acid train ''t'' that are sent to abatement technology ''N'').

2205 = Conversion factor (lb/metric ton).

N = Number of different N_2O abatement technologies with a fraction control factor.

(4) If nitric acid train ''t'' does not exhaust to any N_2O abatement technology after the test point, you must use the emissions factor (determined in Equation V–1 of this section), and the annual nitric acid production (determined in paragraph (i) of this section) according to Equation V–3b of this section:

$$E_{N_2Ot} = \frac{EF_{N20t} * P_t}{2205} \qquad \text{(Eq. V-3d)}$$

where:

E_{N_2Ot} = Annual N_2O mass emissions from nitric acid train ''t'' according to this Equation V–3d (metric tons).

EF_{N_2Ot} = Average site-specific N_2O emissions factor for nitric acid train ''t'' (lb N_2O/ton acid produced, 100 percent acid basis).

P_t = Annual nitric acid production from nitric acid train ''t'' (ton acid produced, 100 percent acid basis).

2205 = Conversion factor (lb/metric ton).

(h) You must determine the annual nitric acid production emissions combined from all nitric acid trains at your facility using Equation V–4 of this section:

$$N_2O = \sum_{t=1}^{m} E_{N2Ot} \qquad \text{(Eq. V-4)}$$

Where:

N_2O = Annual process N_2O emissions from nitric acid production facility (metric tons).

E_{N_2Ot} = N_2O mass emissions per year for nitric acid train ''t'' (metric tons).

m = Number of nitric acid trains.

(i) You must determine the total annual amount of nitric acid produced on each nitric acid train ''t'' (tons acid produced, 100 percent acid basis), according to § 98.224(f).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66466, Oct. 28, 2010; 78 FR 71959, Nov. 29, 2013]

§ 98.224 Monitoring and QA/QC requirements.

(a) You must conduct a new performance test according to a test plan as specified in paragraphs (a)(1) through (3) of this section.

(1) Conduct the performance test annually. The test should be conducted at a point during the campaign which is representative of the average emissions rate from the nitric acid campaigns. Facilities must document the methods used to determine the representative point of the campaign when the performance test is conducted.

(2) Conduct the performance test when your nitric acid production process is changed, specifically when abatement equipment is installed.

(3) If you requested Administrator approval for an alternative method of determining N_2O emissions under § 98.223(a)(2), you must conduct the performance test if your request has not been approved by the Administrator within 150 days of the end of the reporting year in which it was submitted.

(b) You must measure the N_2O concentration during the performance test using one of the methods in paragraphs (b)(1) through (b)(3) of this section.

(1) EPA Method 320 at 40 CFR part 63, appendix A, Measurement of Vapor Phase Organic and Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectroscopy.

(2) ASTM D6348–03 Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy (incorporated by reference in § 98.7).

(3) An equivalent method, with Administrator approval.

(c) You must determine the production rate(s) (100 percent acid basis) from each nitric acid train during the performance test according to paragraphs (c)(1) or (2) of this section.

(1) Direct measurement of production and concentration (such as using flow meters, weigh scales, for production and concentration measurements).

(2) Existing plant procedures used for accounting purposes (i.e. dedicated tank-level and acid concentration measurements).

(d) You must determine the volumetric flow rate during the performance test in conjunction with the applicable EPA methods in 40 CFR part 60, appendices A–1 through A–4. Conduct three emissions test runs of 1 hour each. All QA/QC procedures specified in the reference test methods and any associated performance specifications apply. For each test, the facility must prepare an emission factor determination report that must include the items in paragraphs (d)(1) through (d)(3) of this section.

(1) Analysis of samples, determination of emissions, and raw data.

(2) All information and data used to derive the emissions factor(s).

(3) The production rate during each test and how it was determined.

(e) You must determine the total monthly amount of nitric acid produced. You must also determine the monthly amount of nitric acid produced while N_2O abatement technology is operating from each nitric acid train. These monthly amounts are determined according to the methods in paragraphs (c)(1) or (2) of this section.

(f) You must determine the annual amount of nitric acid produced. You must also determine the annual amount of nitric acid produced while N_2O abatement technology is operating for each nitric acid train. These annual amounts are determined by summing the respective monthly nitric acid quantities determined in paragraph (e) of this section.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66467, Oct. 28, 2010; 78 FR 71960, Nov. 29, 2013]

§ 98.225 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in paragraphs (a) and (b) of this section.

(a) For each missing value of nitric acid production, the substitute data shall be the best available estimate based on all available process data or data used for accounting purposes (such as sales records).

(b) For missing values related to the performance test, including emission factors, production rate, and N_2O concentration, you must conduct a new performance test according to the procedures in § 98.224 (a) through (d).

§ 98.226 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) through (q) of this section.

(a) Nitric Acid train identification number.

(b) Annual process N_2O emissions from each nitric acid train (metric tons).

(c) [Reserved]

(d) [Reserved]

(e) Annual nitric acid production from the nitric acid facility (tons, 100 percent acid basis).

(f) Number of nitric acid trains.

(g) Number of different N_2O abatement technologies per nitric acid train ''t''.

(h) Abatement technologies used (if applicable).

(i) [Reserved]

(j) [Reserved]

(k) Type of nitric acid process used for each nitric acid train (low, medium, high, or dual pressure).

(l) Number of times in the reporting year that missing data procedures were followed to measure nitric acid production (months).

(m) If you conducted a performance test and calculated a site-specific emissions factor according to § 98.223(a)(1), each annual report must also contain the information specified in paragraphs (m)(1) through (7) of this section.

(1) [Reserved]

(2) Test method used for performance test.

(3)–(6) [Reserved]

(7) Number of times in the reporting year that a performance test had to be repeated (number).

(n) If you requested Administrator approval for an alternative method of determining N_2O emissions under § 98.223(a)(2), each annual report must also contain the information specified in paragraphs (n)(1) through (4) of this section.

(1) Name of alternative method.

(2) Description of alternative method.

(3) Request date.

(4) Approval date.

(o) [Reserved]

(p) [Reserved]

(q) Annual percent N_2O emission reduction for all nitric acid trains combined.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66468, Oct. 28, 2010; 75 FR 79157, Dec. 17, 2010; 78 FR 71960, Nov. 29, 2013; 79 FR 63793, Oct. 24, 2014]

§ 98.227 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain the records specified in paragraphs (a)

through (h) of this section for each nitric acid production facility:

(a) Records of significant changes to process.

(b) Documentation of how process knowledge was used to estimate abatement technology destruction efficiency (if applicable).

(c) Performance test reports.

(d) Number of operating hours in the calendar year for each nitric acid train (hours).

(e) Annual nitric acid permitted production capacity (tons).

(f) Measurements, records, and calculations used to determine reported parameters.

(g) Documentation of the procedures used to ensure the accuracy of the measurements of all reported parameters, including but not limited to, calibration of weighing equipment, flow meters, and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

(h) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (h)(1) through (10) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (h)(1) through (10) of this section.

(1) Annual nitric acid produced from each nitric acid train (tons nitric acid produced, 100% acid basis).

(2) Indicate which equation was used to calculate emissions for each nitric acid train.

(3) N_2O concentration per test run during the performance test (ppm N_2O) (Equation V–1 of § 98.223).

(4) Volumetric flow rate of effluent gas per test run during the performance test (dscf/hr) (Equation V–1).

(5) Production rate per test run during the performance test (tons nitric acid produced per hour, 100 percent acid basis) (Equation V–1).

(6) Annual nitric acid production from each nitric acid train during which each N_2O abatement technology was operational (tons nitric acid produced, 100 percent acid basis) (Equation V–2 of § 98.223).

(7) Destruction efficiency of N_2O abatement technology that is used on each nitric acid train (decimal fraction of N_2O removed from vent stream) (Equation V–3a of § 98.223).

(8) Destruction efficiency of each N_2O abatement technology that is used on each nitric acid train (decimal fraction of N_2O removed from vent stream) (Equation V–3b of § 98.223).

(9) Destruction efficiency of each N_2O abatement technology that is used on each nitric acid train (decimal fraction of N_2O removed from vent stream) (Equation V–3c of § 98.223).

(10) Fraction control factor of each N_2O abatement technology that is used on each nitric acid train (decimal fraction of total emissions from nitric acid train ''t'' that are sent to abatement technology ''n'') (Equation V–3c).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63793, Oct. 24, 2014]

§ 98.228 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart W—Petroleum and Natural Gas Systems

SOURCE: 75 FR 74488, Nov. 30, 2010, unless otherwise noted.

§ 98.230 Definition of the source category.

(a) This source category consists of the following industry segments:

(1) *Offshore petroleum and natural gas production.* Offshore petroleum and natural gas production is any platform structure, affixed temporarily or permanently to offshore submerged lands, that houses equipment to extract hydrocarbons from the ocean or lake floor and that processes and/or transfers such hydrocarbons to storage, transport vessels, or onshore. In addition, offshore production includes secondary platform structures connected to the platform structure via walkways, storage tanks associated with the platform structure and floating production and storage offloading equipment (FPSO). This source category does not include reporting of emissions from offshore

drilling and exploration that is not conducted on production platforms.

(2) *Onshore petroleum and natural gas production.* Onshore petroleum and natural gas production means all equipment on a single well-pad or associated with a single well-pad (including but not limited to compressors, generators, dehydrators, storage vessels, engines, boilers, heaters, flares, separation and processing equipment, and portable non-self-propelled equipment, which includes well drilling and completion equipment, workover equipment, and leased, rented or contracted equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of petroleum and/or natural gas (including condensate). This equipment also includes associated storage or measurement vessels, all petroleum and natural gas production equipment located on islands, artificial islands, or structures connected by a causeway to land, an island, or an artificial island. Onshore petroleum and natural gas production also means all equipment on or associated with a single enhanced oil recovery (EOR) well pad using CO_2 or natural gas injection.

(3) *Onshore natural gas processing.* Natural gas processing means the separation of natural gas liquids (NGLs) or non-methane gases from produced natural gas, or the separation of NGLs into one or more component mixtures. Separation includes one or more of the following: forced extraction of natural gas liquids, sulfur and carbon dioxide removal, fractionation of NGLs, or the capture of CO_2 separated from natural gas streams. This segment also includes all residue gas compression equipment owned or operated by the natural gas processing plant. This industry segment includes processing plants that fractionate gas liquids, and processing plants that do not fractionate gas liquids but have an annual average throughput of 25 MMscf per day or greater.

(4) *Onshore natural gas transmission compression.* Onshore natural gas transmission compression means any stationary combination of compressors that move natural gas from production fields, natural gas processing plants, or other transmission compressors through transmission pipelines to natural gas distribution pipelines, LNG storage facilities, or into underground storage. In addition, a transmission compressor station includes equipment for liquids separation, and tanks for the storage of water and hydrocarbon liquids. Residue (sales) gas compression that is part of onshore natural gas processing plants are included in the onshore natural gas processing segment and are excluded from this segment.

(5) *Underground natural gas storage.* Underground natural gas storage means subsurface storage, including depleted gas or oil reservoirs and salt dome caverns that store natural gas that has been transferred from its original location for the primary purpose of load balancing (the process of equalizing the receipt and delivery of natural gas); natural gas underground storage processes and operations (including compression, dehydration and flow measurement, and excluding transmission pipelines); and all the wellheads connected to the compression units located at the facility that inject and recover natural gas into and from the underground reservoirs.

(6) *Liquefied natural gas (LNG) storage.* LNG storage means onshore LNG storage vessels located above ground, equipment for liquefying natural gas, compressors to capture and re-liquefy boil-off-gas, re-condensers, and vaporization units for re-gasification of the liquefied natural gas.

(7) *LNG import and export equipment.* LNG import equipment means all onshore or offshore equipment that receives imported LNG via ocean transport, stores LNG, re-gasifies LNG, and delivers re-gasified natural gas to a natural gas transmission or distribution system. LNG export equipment means all onshore or offshore equipment that receives natural gas, liquefies natural gas, stores LNG, and transfers the LNG via ocean transportation to any location, including locations in the United States.

(8) *Natural gas distribution.* Natural gas distribution means the distribution pipelines and metering and regulating

equipment at metering-regulating stations that are operated by a Local Distribution Company (LDC) within a single state that is regulated as a separate operating company by a public utility commission or that is operated as an independent municipally-owned distribution system. This segment also excludes customer meters and regulators, infrastructure, and pipelines (both interstate and intrastate) delivering natural gas directly to major industrial users and farm taps upstream of the local distribution company inlet.

(b) [Reserved]

[75 FR 74488, Nov. 30, 2010, as amended at 76 FR 80574, Dec. 23, 2011; 79 FR 70385, Nov. 25, 2014]

§ 98.231 Reporting threshold.

(a) You must report GHG emissions under this subpart if your facility contains petroleum and natural gas systems and the facility meets the requirements of § 98.2(a)(2). Facilities must report emissions from the onshore petroleum and natural gas production industry segment only if emission sources specified in paragraph § 98.232(c) emit 25,000 metric tons of CO_2 equivalent or more per year. Facilities must report emissions from the natural gas distribution industry segment only if emission sources specified in paragraph § 98.232(i) emit 25,000 metric tons of CO_2 equivalent or more per year.

(b) For applying the threshold defined in § 98.2(a)(2), natural gas processing facilities must also include owned or operated residue gas compression equipment.

§ 98.232 GHGs to report.

(a) You must report CO_2, CH_4, and N_2O emissions from each industry segment specified in paragraph (b) through (i) of this section, CO_2, CH_4, and N_2O emissions from each flare as specified in paragraph (b) through (i) of this section, and stationary and portable combustion emissions as applicable as specified in paragraph (k) of this section.

(b) For offshore petroleum and natural gas production, report CO_2, CH_4, and N_2O emissions from equipment leaks, vented emission, and flare emission source types as identified in the data collection and emissions estimation study conducted by BOEMRE in compliance with 30 CFR 250.302 through 304. Offshore platforms do not need to report portable emissions.

(c) For an onshore petroleum and natural gas production facility, report CO_2, CH_4, and N_2O emissions from only the following source types on a single well-pad or associated with a single well-pad:

(1) Natural gas pneumatic device venting.

(2) [Reserved]

(3) Natural gas driven pneumatic pump venting.

(4) Well venting for liquids unloading.

(5) Gas well venting during well completions without hydraulic fracturing.

(6) Gas well venting during well completions with hydraulic fracturing.

(7) Gas well venting during well workovers without hydraulic fracturing.

(8) Gas well venting during well workovers with hydraulic fracturing.

(9) Flare stack emissions.

(10) Storage tanks vented emissions from produced hydrocarbons.

(11) Reciprocating compressor venting.

(12) Well testing venting and flaring.

(13) Associated gas venting and flaring from produced hydrocarbons.

(14) Dehydrator vents.

(15) [Reserved]

(16) EOR injection pump blowdown.

(17) Acid gas removal vents.

(18) EOR hydrocarbon liquids dissolved CO_2.

(19) Centrifugal compressor venting.

(20) [Reserved]

(21) Equipment leaks from valves, connectors, open ended lines, pressure relief valves, pumps, flanges, and other equipment leak sources (such as instruments, loading arms, stuffing boxes, compressor seals, dump lever arms, and breather caps).

(22) You must use the methods in § 98.233(z) and report under this subpart the emissions of CO_2, CH_4, and N_2O from stationary or portable fuel combustion equipment that cannot move on roadways under its own power and drive train, and that is located at an onshore petroleum and natural gas production facility as defined in § 98.238. Stationary or portable equipment are

the following equipment, which are integral to the extraction, processing, or movement of oil or natural gas: well drilling and completion equipment, workover equipment, natural gas dehydrators, natural gas compressors, electrical generators, steam boilers, and process heaters.

(d) For onshore natural gas processing, report CO_2, CH_4, and N_2O emissions from the following sources:

(1) Reciprocating compressor venting.

(2) Centrifugal compressor venting.

(3) Blowdown vent stacks.

(4) Dehydrator vents.

(5) Acid gas removal vents.

(6) Flare stack emissions.

(7) Equipment leaks from valves, connectors, open ended lines, pressure relief valves, and meters.

(e) For onshore natural gas transmission compression, report CO_2, CH_4, and N_2O emissions from the following sources:

(1) Reciprocating compressor venting.

(2) Centrifugal compressor venting.

(3) Transmission storage tanks.

(4) Blowdown vent stacks.

(5) Natural gas pneumatic device venting.

(6) Flare stack emissions.

(7) Equipment leaks from valves, connectors, open ended lines, pressure relief valves, and meters.

(f) For underground natural gas storage, report CO_2, CH_4, and N_2O emissions from the following sources:

(1) Reciprocating compressor venting.

(2) Centrifugal compressor venting.

(3) Natural gas pneumatic device venting.

(4) Flare stack emissions.

(5) Equipment leaks from valves, connectors, open ended lines, pressure relief valves, and meters.

(g) For LNG storage, report CO_2, CH_4, and N_2O emissions from the following sources:

(1) Reciprocating compressor venting.

(2) Centrifugal compressor venting.

(3) Equipment leaks from valves; pump seals; connectors; vapor recovery compressors, and other equipment leak sources.

(4) Flare stack emissions.

(h) LNG import and export equipment, report CO_2, CH_4, and N_2O emissions from the following sources:

(1) Reciprocating compressor venting.

(2) Centrifugal compressor venting.

(3) Blowdown vent stacks.

(4) Equipment leaks from valves, pump seals, connectors, vapor recovery compressors, and other equipment leak sources.

(5) Flare stack emissions.

(i) For natural gas distribution, report CO_2, CH_4, and N_2O emissions from the following sources:

(1) Equipment leaks from connectors, block valves, control valves, pressure relief valves, orifice meters, regulators, and open-ended lines at above grade transmission-distribution transfer stations.

(2) Equipment leaks at below grade transmission-distribution transfer stations.

(3) Equipment leaks at above grade metering-regulating stations that are not above grade transmission-distribution transfer stations.

(4) Equipment leaks at below grade metering-regulating stations.

(5) Distribution main equipment leaks.

(6) Distribution services equipment leaks.

(7) Report under subpart W of this part the emissions of CO_2, CH_4, and N_2O emissions from stationary fuel combustion sources following the methods in § 98.233(z).

(j) [Reserved]

(k) Report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, CH_4, and N_2O from each stationary fuel combustion unit by following the requirements of subpart C except for facilities under onshore petroleum and natural gas production and natural gas distribution. Onshore petroleum and natural gas production facilities must report stationary and portable combustion emissions as specified in paragraph (c) of this section. Natural gas distribution facilities must report stationary combustion emissions as specified in paragraph (i) of this section.

(l) You must report under subpart PP of this part (Suppliers of Carbon Dioxide), CO_2 emissions captured and transferred off site by following the requirements of subpart PP.

[75 FR 74488, Nov. 30, 2010, as amended at 76 FR 80574, Dec. 23, 2011; 79 FR 70385, Nov. 25, 2014]

§ 98.233 Calculating GHG emissions.

You must calculate and report the annual GHG emissions as prescribed in this section. For calculations that specify measurements in actual conditions, reporters may use a flow or volume measurement system that corrects to standard conditions and determine the flow or volume at standard conditions; otherwise, reporters must use average atmospheric conditions or typical operating conditions as applicable to the respective monitoring methods in this section.

(a) *Natural gas pneumatic device venting.* Calculate CH_4 and CO_2 volumetric emissions from continuous high bleed, continuous low bleed, and intermittent bleed natural gas pneumatic devices using Equation W–1 of this section.

$$E_{s,i} = \sum_{t=1}^{3} Count_t * EF_t * GHG_i * T_t \qquad \text{(Eq. W-1)}$$

Where:

$E_{s,i}$ = Annual total volumetric GHG emissions at standard conditions in standard cubic feet per year from natural gas pneumatic device vents, of types ''t'' (continuous high bleed, continuous low bleed, intermittent bleed), for GHG_i.

$Count_t$ = Total number of natural gas pneumatic devices of type ''t'' (continuous high bleed, continuous low bleed, intermittent bleed) as determined in paragraph (a)(1) or (a)(2) of this section.

EF_t = Population emission factors for natural gas pneumatic device vents (in standard cubic feet per hour per device) of each type ''t'' listed in Tables W–1A, W–3, and W–4 of this subpart for onshore petroleum and natural gas production, onshore natural gas transmission compression, and underground natural gas storage facilities, respectively.

GHG_i = For onshore petroleum and natural gas production facilities, onshore natural gas transmission compression facilities, and underground natural gas storage facilities, concentration of GHG_i, CH_4 or CO_2, in produced natural gas or processed natural gas for each facility as specified in paragraphs (u)(2)(i), (iii), and (iv) of this section.

T_t = Average estimated number of hours in the operating year the devices, of each type ''t'', were operational using engineering estimates based on best available data. Default is 8,760 hours.

(1) For all industry segments, determine ''$Count_t$'' for Equation W–1 of this subpart for each type of natural gas pneumatic device (continuous high bleed, continuous low bleed, and intermittent bleed) by counting the devices, except as specified in paragraph (a)(2) of this section. The reported number of devices must represent the total number of devices for the reporting year.

(2) For the onshore petroleum and natural gas production industry segment, you have the option in the first two consecutive calendar years to determine ''$Count_t$'' for Equation W–1 of this subpart for each type of natural gas pneumatic device (continuous high bleed, continuous low bleed, and intermittent bleed) using engineering estimates based on best available data.

(3) For all industry segments, determine the type of pneumatic device using engineering estimates based on best available information.

(4) Calculate both CH_4 and CO_2 mass emissions from volumetric emissions using calculations in paragraph (v) of this section.

(b) [Reserved]

(c) *Natural gas driven pneumatic pump venting.* (1) Calculate CH_4 and CO_2 volumetric emissions from natural gas driven pneumatic pump venting using Equation W–2 of this section. Natural gas driven pneumatic pumps covered in paragraph (e) of this section do not have to report emissions under this paragraph (c).

$$E_{s,i} = Count * EF * GHG_i * T \qquad \text{(Eq. W-2)}$$

Where:

$E_{s,i}$ = Annual total volumetric GHG emissions at standard conditions in standard cubic feet per year from all natural gas driven pneumatic pump venting, for GHG_i.

Count = Total number of natural gas driven pneumatic pumps.

EF = Population emissions factors for natural gas driven pneumatic pumps (in standard cubic feet per hour per pump) listed in Table W–1A of this subpart for onshore petroleum and natural gas production.

GHG_i = Concentration of GHG_i, CH_4, or CO_2, in produced natural gas as defined in paragraph (u)(2)(i) of this section.

T = Average estimated number of hours in the operating year the pumps were operational using engineering estimates based on best available data. Default is 8,760 hours.

(2) Calculate both CH_4 and CO_2 mass emissions from volumetric emissions using calculations in paragraph (v) of this section.

(d) *Acid gas removal (AGR) vents.* For AGR vents (including processes such as amine, membrane, molecular sieve or other absorbents and adsorbents), calculate emissions for CO_2 only (not CH_4) vented directly to the atmosphere or emitted through a flare, engine (*e.g.*, permeate from a membrane or de-adsorbed gas from a pressure swing adsorber used as fuel supplement), or sulfur recovery plant, using any of the calculation methods described in this paragraph (d), as applicable.

(1) *Calculation Method 1.* If you operate and maintain a continuous emissions monitoring system (CEMS) that has both a CO_2 concentration monitor and volumetric flow rate monitor, you must calculate CO_2 emissions under this subpart by following the Tier 4 Calculation Method and all associated calculation, quality assurance, reporting, and recordkeeping requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources). Alternatively, you may follow the manufacturer's instructions or industry standard practice. If a CO_2 concentration monitor and volumetric flow rate monitor are not available, you may elect to install a CO_2 concentration monitor and a volumetric flow rate monitor that comply with all of the requirements specified for the Tier 4 Calculation Method in subpart C of this part (General Stationary Fuel Combustion Sources). The calculation and reporting of CH_4 and N_2O emissions is not required as part of the Tier 4 requirements for AGR units.

(2) *Calculation Method 2.* If a CEMS is not available but a vent meter is installed, use the CO_2 composition and annual volume of vent gas to calculate emissions using Equation W–3 of this section.

$$E_{a,CO_2} = V_s * Vol_{CO_2} \qquad \text{(Eq. W-3)}$$

Where:

$E_{a,CO2}$ = Annual volumetric CO_2 emissions at actual conditions, in cubic feet per year.

V_S = Total annual volume of vent gas flowing out of the AGR unit in cubic feet per year at actual conditions as determined by flow meter using methods set forth in § 98.234(b). Alternatively, you may follow the manufacturer's instructions or industry standard practice for calibration of the vent meter.

Vol_{CO2} = Annual average volumetric fraction of CO_2 content in vent gas flowing out of the AGR unit as determined in paragraph (d)(6) of this section.

(3) *Calculation Method 3.* If a CEMS or a vent meter is not installed, you may use the inlet or outlet gas flow rate of the acid gas removal unit to calculate emissions for CO_2 using Equations W–4A or W–4B of this section. If inlet gas flow rate is known, use Equation W–4A. If outlet gas flow rate is known, use Equation W–4B.

$$E_{a,CO2} = V_{in} * \left[\frac{Vol_I - Vol_O}{1 - Vol_O} \right] \quad \text{(Eq. W-4A)}$$

$$E_{a,CO2} = V_{out} * \left[\frac{Vol_I - Vol_O}{1 - Vol_I} \right] \quad \text{(Eq. W-4B)}$$

Where:

$E_{a,\ CO2}$ = Annual volumetric CO_2 emissions at actual conditions, in cubic feet per year.

V_{in} = Total annual volume of natural gas flow into the AGR unit in cubic feet per year at actual conditions as determined using methods specified in paragraph (d)(5) of this section.

V_{out} = Total annual volume of natural gas flow out of the AGR unit in cubic feet per year at actual conditions as determined using methods specified in paragraph (d)(5) of this section.

Vol_I = Annual average volumetric fraction of CO_2 content in natural gas flowing into the AGR unit as determined in paragraph (d)(7) of this section.

Vol_o = Annual average volumetric fraction of CO_2 content in natural gas flowing out of the AGR unit as determined in paragraph (d)(8) of this section.

(4) *Calculation Method 4.* If CEMS or a vent meter is not installed, you may calculate emissions using any standard simulation software package, such as AspenTech HYSYS®, or API 4679 AMINECalc, that uses the Peng-Robinson equation of state and speciates CO_2 emissions. A minimum of the following, determined for typical operating conditions over the calendar year by engineering estimate and process knowledge based on best available data, must be used to characterize emissions:

(i) Natural gas feed temperature, pressure, and flow rate.

(ii) Acid gas content of feed natural gas.

(iii) Acid gas content of outlet natural gas.

(iv) Unit operating hours, excluding downtime for maintenance or standby.

(v) Exit temperature of natural gas.

(vi) Solvent pressure, temperature, circulation rate, and weight.

(5) For Calculation Method 3, determine the gas flow rate of the inlet when using Equation W–4A of this section or the gas flow rate of the outlet when using Equation W–4B of this section for the natural gas stream of an AGR unit using a meter according to methods set forth in § 98.234(b). If you do not have a continuous flow meter, either install a continuous flow meter or use an engineering calculation to determine the flow rate.

(6) For Calculation Method 2, if a continuous gas analyzer is not available on the vent stack, either install a continuous gas analyzer or take quarterly gas samples from the vent gas stream for each quarter that the AGR unit is operating to determine Vol_{CO2} in Equation W–3 of this section, according to the methods set forth in § 98.234(b).

(7) For Calculation Method 3, if a continuous gas analyzer is installed on the inlet gas stream, then the continuous gas analyzer results must be used. If a continuous gas analyzer is not available, either install a continuous gas analyzer or take quarterly gas samples from the inlet gas stream for each quarter that the AGR unit is operating to determine Vol_I in Equation W–4A or W–4B of this section, according to the methods set forth in § 98.234(b).

(8) For Calculation Method 3, determine annual average volumetric fraction of CO_2 content in natural gas flowing out of the AGR unit using one of the methods specified in paragraphs (d)(8)(i) through (d)(8)(iii) of this section.

(i) If a continuous gas analyzer is installed on the outlet gas stream, then the continuous gas analyzer results must be used. If a continuous gas analyzer is not available, you may install a continuous gas analyzer.

(ii) If a continuous gas analyzer is not available or installed, quarterly gas samples may be taken from the outlet gas stream for each quarter that the AGR unit is operating to determine

Vol_O in Equation W–4A or W–4B of this section, according to the methods set forth in § 98.234(b).

(iii) If a continuous gas analyzer is not available or installed, you may use sales line quality specification for CO_2 in natural gas.

(9) Calculate annual volumetric CO_2 emissions at standard conditions using calculations in paragraph (t) of this section.

(10) Calculate annual mass CO_2 emissions using calculations in paragraph (v) of this section.

(11) Determine if CO_2 emissions from the AGR unit are recovered and transferred outside the facility. Adjust the CO_2 emissions estimated in paragraphs (d)(1) through (d)(10) of this section downward by the magnitude of CO_2 emissions recovered and transferred outside the facility.

(e) *Dehydrator vents.* For dehydrator vents, calculate annual CH_4 and CO_2 emissions using the applicable calculation methods described in paragraphs (e)(1) through (e)(4) of this section. If emissions from dehydrator vents are routed to a vapor recovery system, you must adjust the emissions downward according to paragraph (e)(5) of this section. If emissions from dehydrator vents are routed to a flare or regenerator fire-box/fire tubes, you must calculate CH_4, CO_2, and N_2O annual emissions as specified in paragraph (e)(6) of this section.

(1) *Calculation Method 1.* Calculate annual mass emissions from glycol dehydrators that have an annual average of daily natural gas throughput that is greater than or equal to 0.4 million standard cubic feet per day by using a software program, such as AspenTech HYSYS® or GRI–GLYCalc™, that uses the Peng-Robinson equation of state to calculate the equilibrium coefficient, speciates CH_4 and CO_2 emissions from dehydrators, and has provisions to include regenerator control devices, a separator flash tank, stripping gas and a gas injection pump or gas assist pump. The following parameters must be determined by engineering estimate based on best available data and must be used at a minimum to characterize emissions from dehydrators:

(i) Feed natural gas flow rate.

(ii) Feed natural gas water content.

(iii) Outlet natural gas water content.

(iv) Absorbent circulation pump type (*e.g.*, natural gas pneumatic/air pneumatic/electric).

(v) Absorbent circulation rate.

(vi) Absorbent type (*e.g.*, triethylene glycol (TEG), diethylene glycol (DEG) or ethylene glycol (EG)).

(vii) Use of stripping gas.

(viii) Use of flash tank separator (and disposition of recovered gas).

(ix) Hours operated.

(x) Wet natural gas temperature and pressure.

(xi) Wet natural gas composition. Determine this parameter using one of the methods described in paragraphs (e)(1)(xi)(A) through (D) of this section.

(A) Use the GHG mole fraction as defined in paragraph (u)(2)(i) or (ii) of this section.

(B) If the GHG mole fraction cannot be determined using paragraph (u)(2)(i) or (ii) of this section, select a representative analysis.

(C) You may use an appropriate standard method published by a consensus-based standards organization if such a method exists or you may use an industry standard practice as specified in § 98.234(b) to sample and analyze wet natural gas composition.

(D) If only composition data for dry natural gas is available, assume the wet natural gas is saturated.

(2) *Calculation Method 2.* Calculate annual volumetric emissions from glycol dehydrators that have an annual average of daily natural gas throughput that is less than 0.4 million standard cubic feet per day using Equation W–5 of this section:

$$E_{s,i} = EF_i * Count * 1000 \qquad \text{(Eq. W-5)}$$

Where:

$E_{s,i}$ = Annual total volumetric GHG emissions (either CO_2 or CH_4) at standard conditions in cubic feet.

EF_i = Population emission factors for glycol dehydrators in thousand standard cubic feet per dehydrator per year. Use 73.4 for CH_4 and 3.21 for CO_2 at 60 °F and 14.7 psia.

Count = Total number of glycol dehydrators that have an annual average of daily natural gas throughput that is less than 0.4 million standard cubic feet per day.

1000 = Conversion of EF_i in thousand standard cubic feet to standard cubic feet.

(3) *Calculation Method 3.* For dehydrators of any size that use desiccant, you must calculate emissions from the amount of gas vented from the vessel when it is depressurized for the desiccant refilling process using Equation W–6 of this section. Desiccant dehydrator emissions covered in this paragraph do not have to be calculated separately using the method specified in paragraph (i) of this section for blowdown vent stacks.

$$E_{s,n} = \frac{\left(H * D^2 * \pi * P_2 * \%G * N\right)}{(4 * P_1 * 100)} \qquad \text{(Eq. W-6)}$$

Where:

$E_{s,n}$ = Annual natural gas emissions at standard conditions in cubic feet.

H = Height of the dehydrator vessel (ft).

D = Inside diameter of the vessel (ft).

P_1 = Atmospheric pressure (psia).

P_2 = Pressure of the gas (psia).

π = pi (3.14).

%G = Percent of packed vessel volume that is gas.

N = Number of dehydrator openings in the calendar year.

100 = Conversion of %G to fraction.

(4) For glycol dehydrators that use the calculation method in paragraph (e)(2) of this section, calculate both CH_4 and CO_2 mass emissions from volumetric GHG_i emissions using calculations in paragraph (v) of this section. For desiccant dehydrators that use the calculation method in paragraph (e)(3) of this section, calculate both CH_4 and CO_2 volumetric and mass emissions from volumetric natural gas emissions using calculations in paragraphs (u) and (v) of this section.

(5) Determine if the dehydrator unit has vapor recovery. Adjust the emissions estimated in paragraphs (e)(1), (2), and (3) of this section downward by the magnitude of emissions recovered using a vapor recovery system as determined by engineering estimate based on best available data.

(6) Calculate annual emissions from dehydrator vents to flares or regenerator fire-box/fire tubes as follows:

(i) Use the dehydrator vent volume and gas composition as determined in paragraphs (e)(1) through (5) of this section, as applicable.

(ii) Use the calculation method of flare stacks in paragraph (n) of this section to determine dehydrator vent emissions from the flare or regenerator combustion gas vent.

(f) *Well venting for liquids unloadings.* Calculate annual volumetric natural gas emissions from well venting for liquids unloading using one of the calculation methods described in paragraphs (f)(1), (2), or (3) of this section. Calculate annual CH_4 and CO_2 volumetric and mass emissions using the method described in paragraph (f)(4) of this section.

(1) *Calculation Method 1.* Calculate emissions from wells with plunger lifts and wells without plunger lifts separately. For at least one well of each unique well tubing diameter group and pressure group combination in each sub-basin category (see §98.238 for the definitions of tubing diameter group, pressure group, and sub-basin category), where gas wells are vented to the atmosphere to expel liquids accumulated in the tubing, install a recording flow meter on the vent line used to vent gas from the well (*e.g.*, on the vent line off the wellhead separator or atmospheric storage tank) according to methods set forth in §98.234(b). Calculate the total emissions from well venting to the atmosphere for liquids unloading using Equation W–7A of this section. For any tubing diameter group

and pressure group combination in a sub-basin where liquids unloading occurs both with and without plunger lifts, Equation W–7A will be used twice, once for wells with plunger lifts and once for wells without plunger lifts.

$$E_a = FR \sum_{p=1}^{h} T_p \qquad \text{(Eq. W-7A)}$$

Where:

E_a = Annual natural gas emissions for all wells of the same tubing diameter group and pressure group combination in a sub-basin at actual conditions, a, in cubic feet. Calculate emission from wells with plunger lifts and wells without plunger lifts separately.

h = Total number of wells of the same tubing diameter group and pressure group combination in a sub-basin either with or without plunger lifts.

p = Wells 1 through h of the same tubing diameter group and pressure group combination in a sub-basin.

T_p = Cumulative amount of time in hours of venting for each well, p, of the same tubing diameter group and pressure group combination in a sub-basin during the year. If the available venting data do not contain a record of the date of the venting events and data are not available to provide the venting hours for the specific time period of January 1 to December 31, you may calculate an annualized vent time, T_p, using Equation W–7B of this section.

FR = Average flow rate in cubic feet per hour for all measured wells of the same tubing diameter group and pressure group combination in a sub-basin, over the duration of the liquids unloading, under actual conditions as determined in paragraph (f)(1)(i) of this section.

$$T_p = \frac{HR_p}{MP_p} \text{ x } D_p \qquad \text{(Eq. W-7B)}$$

Where:

HR_p = Cumulative amount of time in hours of venting for each well, p, during the monitoring period.

MP_p = Time period, in days, of the monitoring period for each well, p. A minimum of 300 days in a calendar year are required. The next period of data collection must start immediately following the end of data collection for the previous reporting year.

D_p = Time period, in days during which the well, p, was in production (365 if the well was in production for the entire year).

(i) Determine the well vent average flow rate (''FR'' in Equation W–7A of this section) as specified in paragraphs (f)(1)(i)(A) through (C) of this section for at least one well in a unique well tubing diameter group and pressure group combination in each sub-basin category. Calculate emissions from wells with plunger lifts and wells without plunger lifts separately.

(A) Calculate the average flow rate per hour of venting for each unique tubing diameter group and pressure group combination in each sub-basin category by dividing the recorded total annual flow by the recorded time (in hours) for all measured liquid unloading events with venting to the atmosphere.

(B) Apply the average hourly flow rate calculated under paragraph (f)(1)(i)(A) of this section to all wells in the same pressure group that have the same tubing diameter group, for the number of hours of venting these wells.

(C) Calculate a new average flow rate every other calendar year starting with the first calendar year of data collection. For a new producing sub-basin category, calculate an average flow rate beginning in the first year of production.

(ii) Calculate natural gas volumetric emissions at standard conditions using calculations in paragraph (t) of this section.

(2) *Calculation Method 2.* Calculate the total emissions for each sub-basin from well venting to the atmosphere for liquids unloading without plunger lift assist using Equation W–8 of this section.

$$E_s = \sum_{p=1}^{W}\left[V_p \times \left(\left(0.37\times10^{-3}\right)\times CD_p^2 \times WD_p \times SP_p\right) + \sum_{q=1}^{V_p}\left(SFR_p \times \left(HR_{p,q} - 1.0\right)\times Z_{p,q}\right)\right] \quad \text{(Eq. W-8)}$$

Where:

E_s = Annual natural gas emissions for each sub-basin at standard conditions, s, in cubic feet per year.

W = Total number of wells with well venting for liquids unloading for each sub-basin.

p = Wells 1 through W with well venting for liquids unloading for each sub-basin.

V_p = Total number of unloading events in the monitoring period per well, p.

0.37×10^{-3} = {3.14 (pi)/4}/{14.7*144} (psia converted to pounds per square feet).

CD_p = Casing internal diameter for each well, p, in inches.

WD_p = Well depth from either the top of the well or the lowest packer to the bottom of the well, for each well, p, in feet.

SP_p = For each well, p, shut-in pressure or surface pressure for wells with tubing production, or casing pressure for each well with no packers, in pounds per square inch absolute (psia). If casing pressure is not available for each well, you may determine the casing pressure by multiplying the tubing pressure of each well with a ratio of casing pressure to tubing pressure from a well in the same sub-basin for which the casing pressure is known. The tubing pressure must be measured during gas flow to a flow-line. The shut-in pressure, surface pressure, or casing pressure must be determined just prior to liquids unloading when the well production is impeded by liquids loading or closed to the flow-line by surface valves.

SFR_p = Average flow-line rate of gas for well, p, at standard conditions in cubic feet per hour. Use Equation W–33 of this section to calculate the average flow-line rate at standard conditions.

$HR_{p,q}$ = Hours that each well, p, was left open to the atmosphere during each unloading event, q.

1.0 = Hours for average well to blowdown casing volume at shut-in pressure.

q = Unloading event.

$Z_{p,q}$ = If $HR_{p,q}$ is less than 1.0 then $Z_{p,q}$ is equal to 0. If $HR_{p,q}$ is greater than or equal to 1.0 then $Z_{p,q}$ is equal to 1.

(3) *Calculation Method 3.* Calculate the total emissions for each sub-basin from well venting to the atmosphere for liquids unloading with plunger lift assist using Equation W–9 of this section.

$$E_s = \sum_{p=1}^{W}\left[V_p \times \left(\left(0.37\times10^{-3}\right)\times TD_p^2 \times WD_p \times SP_p\right) + \sum_{q=1}^{V_p}\left(SFR_p \times \left(HR_{p,q} - 0.5\right)\times Z_{p,q}\right)\right] \quad \text{(Eq. W-9)}$$

Where:

E_s = Annual natural gas emissions for each sub-basin at standard conditions, s, in cubic feet per year.

W = Total number of wells with plunger lift assist and well venting for liquids unloading for each sub-basin.

p = Wells 1 through W with well venting for liquids unloading for each sub-basin.

V_p = Total number of unloading events in the monitoring period for each well, p.

0.37×10^{-3} = {3.14 (pi)/4}/{14.7*144} (psia converted to pounds per square feet).

TD_p = Tubing internal diameter for each well, p, in inches.

WD_p = Tubing depth to plunger bumper for each well, p, in feet.

SP_p = Flow-line pressure for each well, p, in pounds per square inch absolute (psia), using engineering estimate based on best available data.

SFR_p = Average flow-line rate of gas for well, p, at standard conditions in cubic feet per hour. Use Equation W–33 of this section to calculate the average flow-line rate at standard conditions.

$HR_{p,q}$ = Hours that each well, p, was left open to the atmosphere during each unloading event, q.

0.5 = Hours for average well to blowdown tubing volume at flow-line pressure.

q = Unloading event.

$Z_{p,q}$ = If $HR_{p,q}$ is less than 0.5 then $Z_{p,q}$ is equal to 0. If $HR_{p,q}$ is greater than or equal to 0.5 then $Z_{p,q}$ is equal to 1.

(4) Calculate CH_4 and CO_2 volumetric and mass emissions from volumetric natural gas emissions using calculations in paragraphs (u) and (v) of this section.

(g) *Gas well venting during completions and workovers with hydraulic fracturing.* Calculate annual volumetric natural gas emissions from gas well venting during completions and workovers involving hydraulic fracturing using Equation W–10A or Equation W–10B of this section. Equation W–10A applies to well venting when the flowback rate is measured from a specified number of example completions or workovers and Equation W–10B applies when the flowback vent or flare volume is measured for each completion or workover. Completion and workover activities are separated into two periods, an initial period when flowback is routed to open pits or tanks and a subsequent period when gas content is sufficient to route the flowback to a separator or when the gas content is sufficient to allow measurement by the devices specified in paragraph (g)(1) of this section, regardless of whether a separator is actually utilized. If you elect to use Equation W–10A of this section, you must follow the procedures specified in paragraph (g)(1) of this section. Emissions must be calculated separately for completions and workovers, for each sub-basin, and for each well type combination identified in paragraph (g)(2) of this section. You must calculate CH_4 and CO_2 volumetric and mass emissions as specified in paragraph (g)(3) of this section. If emissions from gas well venting during completions and workovers with hydraulic fracturing are routed to a flare, you must calculate CH_4, CO_2, and N_2O annual emissions as specified in paragraph (g)(4) of this section.

$$E_{s,n} = \sum_{p=1}^{W} \left[T_{p,s} \times FRM_s \times PR_{s,p} - EnF_{s,p} + \left[T_{p,i} \times FRM_i \div 2 \times PR_{s,p} \right] \right] \quad \text{(Eq. W-10A)}$$

$$E_{s,n} = \sum_{p=1}^{W} \left[FV_{s,p} - EnF_{s,p} + \left[T_{p,i} \times FR_{p,i} \div 2 \right] \right] \quad \text{(Eq. W-10B)}$$

Where:

$E_{s,n}$ = Annual volumetric natural gas emissions in standard cubic feet from gas well venting during completions or workovers following hydraulic fracturing for each sub-basin and well type combination.

W = Total number of wells completed or worked over using hydraulic fracturing in a sub-basin and well type combination.

$T_{p,s}$ = Cumulative amount of time of flowback, after sufficient quantities of gas are present to enable separation, where gas vented or flared for the completion or workover, in hours, for each well, p, in a sub-basin and well type combination during the reporting year. This may include non-contiguous periods of venting or flaring.

$T_{p,i}$ = Cumulative amount of time of flowback to open tanks/pits, from when gas is first detected until sufficient quantities of gas are present to enable separation, for the completion or workover, in hours, for each well, p, in a sub-basin and well type combination during the reporting year. This may include non-contiguous periods of routing to open tanks/pits.

FRM_s = Ratio of average flowback, during the period when sufficient quantities of gas are present to enable separation, of well completions and workovers from hydraulic fracturing to 30-day production rate for the sub-basin and well type combination, calculated using procedures specified in paragraph (g)(1)(iii) of this section, expressed in standard cubic feet per hour.

FRM_i = Ratio of initial flowback rate during well completions and workovers from hydraulic fracturing to 30-day production rate for the sub-basin and well type combination, calculated using procedures specified in paragraph (g)(1)(iv) of this section, expressed in standard cubic feet per hour, for the period of flow to open tanks/pits.

$PR_{s,p}$ = Average production flow rate during the first 30 days of production after completions of newly drilled gas wells or gas well workovers using hydraulic fracturing in standard cubic feet per hour of

each well p, that was measured in the sub-basin and well type combination.

$EnF_{s,p}$ = Volume of N_2 injected gas in cubic feet at standard conditions that was injected into the reservoir during an energized fracture job for each well, p, as determined by using an appropriate meter according to methods described in § 98.234(b), or by using receipts of gas purchases that are used for the energized fracture job. Convert to standard conditions using paragraph (t) of this section. If the fracture process did not inject gas into the reservoir or if the injected gas is CO_2 then $EnF_{s,p}$ is 0.

$FV_{s,p}$ = Flow volume vented or flared of each well, p, in standard cubic feet measured using a recording flow meter (digital or analog) on the vent line to measure flowback during the separation period of the completion or workover according to methods set forth in § 98.234(b).

$FR_{p,i}$ = Flow rate vented or flared of each well, p, in standard cubic feet per hour measured using a recording flow meter (digital or analog) on the vent line to measure the flowback, at the beginning of the period of time when sufficient quantities of gas are present to enable separation, of the completion or workover according to methods set forth in § 98.234(b).

(1) If you elect to use Equation W–10A of this section, you must use Calculation Method 1 as specified in paragraph (g)(1)(i) of this section, or Calculation Method 2 as specified in paragraph (g)(1)(ii) of this section, to determine the value of FRM_s and FRM_i. These values must be based on the flow rate for flowback, once sufficient gas is present to enable separation. The number of measurements or calculations required to estimate FRM_s and FRM_i must be determined individually for completions and workovers per sub-basin and well type combination as follows: Complete measurements or calculations for at least one completion or workover for less than or equal to 25 completions or workovers for each well type combination within a sub-basin; complete measurements or calculations for at least two completions or workovers for 26 to 50 completions or workovers for each sub-basin and well type combination; complete measurements or calculations for at least three completions or workovers for 51 to 100 completions or workovers for each sub-basin and well type combination; complete measurements or calculations for at least four completions or workovers for 101 to 250 completions or workovers for each sub-basin and well type combination; and complete measurements or calculations for at least five completions or workovers for greater than 250 completions or workovers for each sub-basin and well type combination.

(i) *Calculation Method 1.* You must use Equation W–12A as specified in paragraph (g)(1)(iii) of this section to determine the value of FRM_s. You must use Equation W–12B as specified in paragraph (g)(1)(iv) of this section to determine the value of FRM_i. The procedures specified in paragraphs (g)(1)(v) and (vi) also apply. When making flowback measurements for use in Equations W–12A and W–12B of this section, you must use a recording flow meter (digital or analog) installed on the vent line, ahead of a flare or vent, to measure the flowback rates in units of standard cubic feet per hour according to methods set forth in § 98.234(b).

(ii) *Calculation Method 2.* You must use Equation W–12A as specified in paragraph (g)(1)(iii) of this section to determine the value of FRM_s. You must use Equation W–12B as specified in paragraph (g)(1)(iv) of this section to determine the value of FRM_i. The procedures specified in paragraphs (g)(1)(v) and (vi) also apply. When calculating the flowback rates for use in Equations W–12A and W–12B of this section based on well parameters, you must record the well flowing pressure immediately upstream (and immediately downstream in subsonic flow) of a well choke according to methods set forth in § 98.234(b) to calculate the well flowback. The upstream pressure must be surface pressure and reservoir pressure cannot be assumed. The downstream pressure must be measured after the choke and atmospheric pressure cannot be assumed. Calculate flowback rate using Equation W–11A of this section for subsonic flow or Equation W–11B of this section for sonic flow. You must use best engineering estimates based on best available data along with Equation W–11C of this section to determine whether the predominant flow is sonic or subsonic. If the value of R in Equation W–11C of this section is greater than or equal to 2, then flow is sonic; otherwise, flow is

subsonic. Convert calculated FR_a values from actual conditions upstream of the restriction orifice to standard conditions ($FR_{s,p}$ and $FR_{i,p}$) for use in Equations W–12A and W–12B of this section using Equation W–33 in paragraph (t) of this section.

$$FR_a = 1.27 * 10^5 * A * \sqrt{3430 * T_u * \left[\left(\frac{P_2}{P_1}\right)^{1.515} - \left(\frac{P_2}{P_1}\right)^{1.758}\right]} \quad \text{(Eq. W-11A)}$$

Where:

FR_a = Flowback rate in actual cubic feet per hour, under actual subsonic flow conditions.

A = Cross sectional open area of the restriction orifice (m^2).

P_1 = Pressure immediately upstream of the choke (psia).

T_u = Temperature immediately upstream of the choke (degrees Kelvin).

P_2 = Pressure immediately downstream of the choke (psia).

3430 = Constant with units of $m^2/(sec^2 * K)$.

$1.27*10^5$ = Conversion from m^3/second to ft^3/hour.

$$FR_a = 1.27 * 10^5 * A * \sqrt{187.08 * T_u} \quad \text{(Eq. W-11B)}$$

Where:

FR_a = Flowback rate in actual cubic feet per hour, under actual sonic flow conditions.

A = Cross sectional open area of the restriction orifice (m^2).

T_u = Temperature immediately upstream of the choke (degrees Kelvin).

187.08 = Constant with units of $m^2/(sec^2 * K)$.

$1.27*10^5$ = Conversion from m^3/second to ft^3/hour.

$$R = P1/P2 \quad \text{(Eq. W-11C)}$$

Where:

R = Pressure ratio.

P_1 = Pressure immediately upstream of the choke (psia).

P_2 = Pressure immediately downstream of the choke (psia).

(iii) For Equation W–10A of this section, calculate FRM_s using Equation W–12A of this section.

$$FRM_s = \frac{\sum_{p=1}^{N} FR_{s,p}}{\sum_{p=1}^{N} PR_{s,p}} \quad \text{(Eq. W-12A)}$$

Where:

FRM_s = Ratio of average flowback rate, during the period of time when sufficient quantities of gas are present to enable separation, of well completions and workovers from hydraulic fracturing to 30-day production rate for each sub-basin and well type combination.

$FR_{s,p}$ = Measured average flowback rate from Calculation Method 1 described in paragraph (g)(1)(i) of this section or calculated average flowback rate from Calculation Method 2 described in paragraph (g)(1)(ii) of this section, during the separation period in standard cubic feet per hour for well(s) p for each sub-basin and well type combination. Convert measured and calculated FR_a values from actual conditions upstream of the restriction orifice (FR_a) to standard conditions ($FR_{s,p}$) for each well p using Equation W–33 in paragraph (t) of this section. You may not use flow volume as used in Equation W–10B converted to a flow rate for this parameter.

$PR_{s,p}$ = Average production flow rate during the first 30 days of production after completions of newly drilled gas wells or gas well workovers using hydraulic fracturing, in standard cubic feet per hour for each well, p, that was measured in the sub-basin and well type combination.

N = Number of measured or calculated well completions or workovers using hydraulic fracturing in a sub-basin and well type combination.

(iv) For Equation W–10A of this section, calculate FRM_i using Equation W–12B of this section.

$$FRMi = \frac{\sum_{p=1}^{N} FR_{i,p}}{\sum_{p=1}^{N} PR_{s,p}} \qquad \text{(Eq. W-12B)}$$

Where:

FRM_i = Ratio of flowback gas rate while flowing to open tanks/pits during well completions and workovers from hydraulic fracturing to 30-day production rate.

$FR_{i,p}$ = Initial measured gas flowback rate from Calculation Method 1 described in paragraph (g)(1)(i) of this section or initial calculated flow rate from Calculation Method 2 described in paragraph (g)(1)(ii) of this section in standard cubic feet per hour for well(s), p, for each sub-basin and well type combination. Measured and calculated $FR_{i,p}$ values must be based on flow conditions at the beginning of the separation period and must be expressed at standard conditions.

$PR_{s,p}$ = Average production flow rate during the first 30-days of production after completions of newly drilled gas wells or gas well workovers using hydraulic fracturing, in standard cubic feet per hour of each well, p, that was measured in the sub-basin and well type combination.

N = Number of measured or calculated well completions or workovers using hydraulic fracturing in a sub-basin and well type combination.

(v) For Equation W–10A of this section, the ratio of flowback rate during well completions and workovers from hydraulic fracturing to 30-day production rate for horizontal and vertical wells are applied to all horizontal and vertical well completions in the gas producing sub-basin and well type combination and to all horizontal and vertical well workovers, respectively, in the gas producing sub-basin and well type combination for the total number of hours of flowback and for the first 30 day average production rate for each of these wells.

(vi) For Equation W–12A and W–12B of this section, calculate new flowback rates for horizontal and vertical gas well completions and horizontal and vertical gas well workovers in each sub-basin category once every two years starting in the first calendar year of data collection.

(2) For paragraphs (g) introductory text and (g)(1) of this section, measurements and calculations are completed separately for workovers and completions per sub-basin and well type combination. A well type combination is a unique combination of the parameters listed in paragraphs (g)(2)(i) through (iii) of this section.

(i) Vertical or horizontal (directional drilling).

(ii) With flaring or without flaring.

(iii) Reduced emission completion/workover or not reduced emission completion/workover.

(3) Calculate both CH_4 and CO_2 volumetric and mass emissions from total natural gas volumetric emissions using calculations in paragraphs (u) and (v) of this section.

(4) Calculate annual emissions from gas well venting during well completions and workovers from hydraulic fracturing where all or a portion of the gas is flared as specified in paragraphs (g)(4)(i) and (ii) of this section.

(i) Use the volumetric total natural gas emissions vented to the atmosphere during well completions and workovers as determined in paragraph (g) of this section to calculate volumetric and mass emissions using paragraphs (u) and (v) of this section.

(ii) Use the calculation method of flare stacks in paragraph (n) of this section to adjust emissions for the portion of gas flared during well completions and workovers using hydraulic fracturing. This adjustment to emissions from completions using flaring, versus completions without flaring, accounts for the conversion of CH_4 to CO_2 in the flare and for the formation on N_2O during flaring.

(h) *Gas well venting during completions and workovers without hydraulic fracturing.* Calculate annual volumetric natural gas emissions from each gas well venting during workovers without hydraulic fracturing using Equation W–13A of this section. Calculate annual volumetric natural gas emissions from each gas well venting during completions without hydraulic fracturing using Equation W–13B of this section. You must convert annual volumetric natural gas emissions to CH_4 and CO_2 volumetric and mass emissions as specified in paragraph (h)(1) of this section. If emissions from gas well venting during completions and workovers without hydraulic fracturing are routed to a flare, you must calculate CH_4, CO_2, and N_2O annual emissions as specified in paragraph (h)(2) of this section.

$$E_{s,wo} = N_{wo} * EF_{wo} \qquad \text{(Eq. W-13A)}$$

$$E_{s,p} = \sum_{p=1}^{f} V_p * T_p \qquad \text{(Eq. W-13B)}$$

Where:

$E_{s,wo}$ = Annual volumetric natural gas emissions in standard cubic feet from gas well venting during well workovers without hydraulic fracturing.

N_{wo} = Number of workovers per sub-basin category that do not involve hydraulic fracturing in the reporting year.

EF_{wo} = Emission factor for non-hydraulic fracture well workover venting in standard cubic feet per workover. Use 3,114 standard cubic feet natural gas per well workover without hydraulic fracturing.

$E_{s,p}$ = Annual volumetric natural gas emissions in standard cubic feet from gas well venting during well completions without hydraulic fracturing.

p = Well completions 1 through f in a sub-basin.

f = Total number of well completions without hydraulic fracturing in a sub-basin category.

V_p = Average daily gas production rate in standard cubic feet per hour for each well, p, undergoing completion without hydraulic fracturing. This is the total annual gas production volume divided by total number of hours the wells produced to the flow-line. For completed wells that have not established a production rate, you may use the average flow rate from the first 30 days of production. In the event that the well is completed less than 30 days from the end of the calendar year, the first 30 days of the production straddling the current and following calendar years shall be used.

T_p = Time that gas is vented to either the atmosphere or a flare for each well, p, undergoing completion without hydraulic fracturing, in hours during the year.

(1) Calculate both CH_4 and CO_2 volumetric emissions from natural gas volumetric emissions using calculations in paragraph (u) of this section. Calculate both CH_4 and CO_2 mass emissions from volumetric emissions vented to atmosphere using calculations in paragraph (v) of this section.

(2) Calculate annual emissions of CH_4, CO_2, and N_2O from gas well venting to flares during well completions and workovers not involving hydraulic fracturing as specified in paragraphs (h)(2)(i) and (ii) of this section.

(i) Use the gas well venting volume and gas composition during well completions and workovers that are flared as determined using the methods specified in paragraphs (h) and (h)(1) of this section.

(ii) Use the calculation method of flare stacks in paragraph (n) of this section to determine emissions from the flare for gas well venting to a flare during completions and workovers without hydraulic fracturing.

(i) *Blowdown vent stacks.* Calculate CO_2 and CH_4 blowdown vent stack emissions from the depressurization of equipment to reduce system pressure for planned or emergency shutdowns resulting from human intervention or to take equipment out of service for maintenance as specified in either paragraph (i)(2) or (3) of this section. You may use the method in paragraph (i)(2) of this section for some blowdown vent stacks at your facility and the method in paragraph (i)(3) of this section for other blowdown vent stacks at your facility. Equipment with a unique physical volume of less than 50 cubic feet as determined in paragraph (i)(1) of this section are not subject to the requirements in paragraphs (i)(2) through (4) of this section. The requirements in this paragraph (i) do not apply to blowdown vent stack emissions from depressurizing to a flare, over-pressure relief, operating pressure control venting, blowdown of non-GHG gases, and desiccant dehydrator blowdown venting before reloading.

(1) *Method for calculating unique physical volumes.* You must calculate each unique physical volume (including pipelines, compressor case or cylinders, manifolds, suction bottles, discharge bottles, and vessels) between isolation valves, in cubic feet, by using engineering estimates based on best available data.

(2) *Method for determining emissions from blowdown vent stacks according to equipment or event type.* If you elect to determine emissions according to each equipment or event type, using unique physical volumes as calculated in paragraph (i)(1) of this section, you must calculate emissions as specified in paragraph (i)(2)(i) of this section and either paragraph (i)(2)(ii) or, if applicable, paragraph (i)(2)(iii) of this section for each equipment or event type. Equipment or event types must be grouped into the following seven categories: Facility piping (*i.e.*, piping within the facility boundary other than physical volumes associated with distribution pipelines), pipeline venting (*i.e.*, physical volumes associated with distribution pipelines vented within the facility boundary), compressors, scrubbers/strainers, pig launchers and receivers, emergency shutdowns (this category includes emergency shutdown blowdown emissions regardless of equipment type), and all other equipment with a physical volume greater than or equal to 50 cubic feet. If a blowdown event resulted in emissions from multiple equipment types and the emissions cannot be apportioned to the different equipment types, then categorize the blowdown event as the equipment type that represented the largest portion of the emissions for the blowdown event.

(i) Calculate the total annual natural gas emissions from each unique physical volume that is blown down using either Equation W–14A or W–14B of this section.

$$E_{s,n} = N * \left(V \left(\frac{(459.67 + T_s) P_a}{(459.67 + T_a) P_s Z_a} \right) - V * C \right) \qquad \text{(Eq. W-14A)}$$

Where:

$E_{s,n}$ = Annual natural gas emissions at standard conditions from each unique physical volume that is blown down, in cubic feet.

N = Number of occurrences of blowdowns for each unique physical volume in the calendar year.
V = Unique physical volume between isolation valves, in cubic feet, as calculated in paragraph (i)(1) of this section.
C = Purge factor is 1 if the unique physical volume is not purged, or 0 if the unique physical volume is purged using non-GHG gases.
T_s = Temperature at standard conditions (60 °F).
T_a = Temperature at actual conditions in the unique physical volume (°F).
P_s = Absolute pressure at standard conditions (14.7 psia).
P_a = Absolute pressure at actual conditions in the unique physical volume (psia).
Z_a = Compressibility factor at actual conditions for natural gas. You may use either a default compressibility factor of 1, or a site-specific compressibility factor based on actual temperature and pressure conditions.

$$E_{s,n} = \sum_{p=1}^{N} \left[V_p \left(\frac{(459.67 + T_s)(P_{a,b,p} - P_{a,e,p})}{(459.67 + T_{a,p}) P_s Z_a} \right) \right] \quad \text{(Eq. W-14B)}$$

Where:

$E_{s,n}$ = Annual natural gas emissions at standard conditions from each unique physical volume that is blown down, in cubic feet.
p = Individual occurrence of blowdown for the same unique physical volume.
N = Number of occurrences of blowdowns for each unique physical volume in the calendar year.
V_p = Unique physical volume between isolation valves, in cubic feet, for each blowdown ''p.''
T_s = Temperature at standard conditions (60 °F).
$T_{a,p}$ = Temperature at actual conditions in the unique physical volume (°F) for each blowdown ''p''.
P_s = Absolute pressure at standard conditions (14.7 psia).
$P_{a,b,p}$ = Absolute pressure at actual conditions in the unique physical volume (psia) at the beginning of the blowdown ''p''.
$P_{a,e,p}$ = Absolute pressure at actual conditions in the unique physical volume (psia) at the end of the blowdown ''p''; 0 if blowdown volume is purged using non-GHG gases.
Z_a = Compressibility factor at actual conditions for natural gas. You may use either a default compressibility factor of 1, or a site-specific compressibility factor based on actual temperature and pressure conditions.

(ii) Except as allowed in paragraph (i)(2)(iii) of this section, calculate annual CH_4 and CO_2 volumetric and mass emissions from each unique physical volume that is blown down by using the annual natural gas emission value as calculated in either Equation W–14A or Equation W–14B of paragraph (i)(2)(i) of this section and the calculation method specified in paragraph (i)(4) of this section. Calculate the total annual CH_4 and CO_2 emissions for each equipment or event type by summing the annual CH_4 and CO_2 mass emissions for all unique physical volumes associated with the equipment or event type.

(iii) For onshore natural gas transmission compression facilities and LNG import and export equipment, as an alternative to using the procedures in paragraph (i)(2)(ii) of this section, you may elect to sum the annual natural gas emissions as calculated using either Equation W–14A or Equation W–14B of paragraph (i)(2)(i) of this section for all unique physical volumes associated with the equipment type or event type. Calculate the total annual CH_4 and CO_2 volumetric and mass emissions for each equipment type or event type using the sums of the total annual natural gas emissions for each equipment type and the calculation method specified in paragraph (i)(4) of this section.

(3) *Method for determining emissions from blowdown vent stacks using a flow meter*. In lieu of determining emissions from blowdown vent stacks as specified in paragraph (i)(2) of this section, you may use a flow meter and measure blowdown vent stack emissions for any unique physical volumes determined according to paragraph (i)(1) of this section to be greater than or equal to 50 cubic feet. If you choose to use this method, you must measure the natural gas emissions from the blowdown(s)

through the monitored stack(s) using a flow meter according to methods in § 98.234(b), and calculate annual CH_4 and CO_2 volumetric and mass emissions measured by the meters according to paragraph (i)(4) of this section.

(4) *Method for converting from natural gas emissions to GHG volumetric and mass emissions.* Calculate both CH_4 and CO_2 volumetric and mass emissions using the methods specified in paragraphs (u) and (v) of this section.

(j) *Onshore production storage tanks.* Calculate CH_4, CO_2, and N_2O (when flared) emissions from atmospheric pressure fixed roof storage tanks receiving hydrocarbon produced liquids from onshore petroleum and natural gas production facilities (including stationary liquid storage not owned or operated by the reporter), as specified in this paragraph (j). For wells flowing to gas-liquid separators with annual average daily throughput of oil greater than or equal to 10 barrels per day, calculate annual CH_4 and CO_2 using Calculation Method 1 or 2 as specified in paragraphs (j)(1) and (2) of this section. For wells flowing directly to atmospheric storage tanks without passing through a wellhead separator with throughput greater than or equal to 10 barrels per day, calculate annual CH_4 and CO_2 emissions using Calculation Method 2 as specified in paragraph (j)(2) of this section. For wells flowing to gas-liquid separators or directly to atmospheric storage tanks with throughput less than 10 barrels per day, use Calculation Method 3 as specified in paragraph (j)(3) of this section. If you use Calculation Method 1 or Calculation Method 2, you must also calculate emissions that may have occurred due to dump valves not closing properly using the method specified in paragraph (j)(6) of this section. If emissions from atmospheric pressure fixed roof storage tanks are routed to a vapor recovery system, you must adjust the emissions downward according to paragraph (j)(4) of this section. If emissions from atmospheric pressure fixed roof storage tanks are routed to a flare, you must calculate CH_4, CO_2, and N_2O annual emissions as specified in paragraph (j)(5) of this section.

(1) *Calculation Method 1.* Calculate annual CH_4 and CO_2 emissions from onshore production storage tanks using operating conditions in the last wellhead gas-liquid separator before liquid transfer to storage tanks. Calculate flashing emissions with a software program, such as AspenTech HYSYS® or API 4697 E&P Tank, that uses the Peng-Robinson equation of state, models flashing emissions, and speciates CH_4 and CO_2 emissions that will result when the oil from the separator enters an atmospheric pressure storage tank. The following parameters must be determined for typical operating conditions over the year by engineering estimate and process knowledge based on best available data, and must be used at a minimum to characterize emissions from liquid transferred to tanks:

(i) Separator temperature.

(ii) Separator pressure.

(iii) Sales oil or stabilized oil API gravity.

(iv) Sales oil or stabilized oil production rate.

(v) Ambient air temperature.

(vi) Ambient air pressure.

(vii) Separator oil composition and Reid vapor pressure. If this data is not available, determine these parameters by using one of the methods described in paragraphs (j)(1)(vii)(A) through (C) of this section.

(A) If separator oil composition and Reid vapor pressure default data are provided with the software program, select the default values that most closely match your separator pressure first, and API gravity secondarily.

(B) If separator oil composition and Reid vapor pressure data are available through your previous analysis, select the latest available analysis that is representative of produced crude oil or condensate from the sub-basin category.

(C) Analyze a representative sample of separator oil in each sub-basin category for oil composition and Reid vapor pressure using an appropriate standard method published by a consensus-based standards organization.

(2) *Calculation Method 2.* Calculate annual CH_4 and CO_2 emissions using the methods in paragraph (j)(2)(i) of this section for wells flowing to gas-liquid separators with annual average daily throughput of oil greater than or equal to 10 barrels per day. Calculate annual

CH_4 and CO_2 emissions using the methods in paragraph (j)(2)(ii) of this section for wells with annual average daily oil production greater than or equal to 10 barrels per day that flow directly to atmospheric storage tanks.

(i) *Flow to storage tank after passing through a separator.* Assume that all of the CH_4 and CO_2 in solution at separator temperature and pressure is emitted from oil sent to storage tanks. You may use an appropriate standard method published by a consensus-based standards organization if such a method exists or you may use an industry standard practice as described in § 98.234(b) to sample and analyze separator oil composition at separator pressure and temperature.

(ii) *Flow to storage tank direct from wells.* Calculate CH_4 and CO_2 emissions using either of the methods in paragraph (j)(2)(ii)(A) or (B) of this section.

(A) If well production oil and gas compositions are available through your previous analysis, select the latest available analysis that is representative of produced oil and gas from the sub-basin category and assume all of the CH_4 and CO_2 in both oil and gas are emitted from the tank.

(B) If well production oil and gas compositions are not available, use default oil and gas compositions in software programs, such as API 4697 E&P Tank, that most closely match your well production gas/oil ratio and API gravity and assume all of the CH_4 and CO_2 in both oil and gas are emitted from the tank.

(3) *Calculation Method 3.* Calculate CH_4 and CO_2 emissions using Equation W–15 of this section:

$$E_{s,i} = EF_i * Count * 1000 \qquad \text{(Eq. W-15)}$$

Where:

$E_{s,i}$ = Annual total volumetric GHG emissions (either CO_2 or CH_4) at standard conditions in cubic feet.

EF_i = Population emission factor for separators or wells in thousand standard cubic feet per separator or well per year, for crude oil use 4.2 for CH_4 and 2.8 for CO_2 at 60 °F and 14.7 psia, and for gas condensate use 17.6 for CH_4 and 2.8 for CO_2 at 60 °F and 14.7 psia.

Count = Total number of separators or wells with annual average daily throughput less than 10 barrels per day. Count only separators or wells that feed oil directly to the storage tank.

1,000 = Conversion from thousand standard cubic feet to standard cubic feet.

(4) Determine if the storage tank receiving your separator oil has a vapor recovery system.

(i) Adjust the emissions estimated in paragraphs (j)(1) through (3) of this section downward by the magnitude of emissions recovered using a vapor recovery system as determined by engineering estimate based on best available data.

(ii) [Reserved]

(5) Determine if the storage tank receiving your separator oil is sent to flare(s).

(i) Use your separator flash gas volume and gas composition as determined in this section.

(ii) Use the calculation method of flare stacks in paragraph (n) of this section to determine storage tank emissions from the flare.

(6) If you use Calculation Method 1 or Calculation Method 2 in paragraph (j)(1) or (2) of this section, calculate emissions from occurrences of well pad gas-liquid separator liquid dump valves not closing during the calendar year by using Equation W–16 of this section.

$$E_{s,i,o} = \left(CF_n * \frac{E_n}{8760} * T_n \right) \qquad \text{(Eq. W-16)}$$

Where:

$E_{s,i,o}$ = Annual volumetric GHG emissions at standard conditions from each storage tank in cubic feet that resulted from the dump valve on the gas-liquid separator not closing properly.

E_n = Storage tank emissions as determined in paragraphs (j)(1), (j)(2) and, if applicable, (j)(4) of this section in standard cubic feet per year.

T_n = Total time a dump valve is not closing properly in the calendar year in hours. Estimate T_n based on maintenance, operations, or routine well pad inspections that indicate the period of time when the valve was malfunctioning in open or partially open position.

CF_n = Correction factor for tank emissions for time period T_n is 2.87 for crude oil production. Correction factor for tank emissions for time period T_n is 4.37 for gas condensate production.

8,760 = Conversion to hourly emissions.

(7) Calculate both CH_4 and CO_2 mass emissions from natural gas volumetric emissions using calculations in paragraph (v) of this section.

(k) *Transmission storage tanks.* For vent stacks connected to one or more transmission condensate storage tanks, either water or hydrocarbon, without vapor recovery, in onshore natural gas transmission compression, calculate CH_4 and CO_2 annual emissions from compressor scrubber dump valve leakage as specified in paragraphs (k)(1) through (k)(4) of this section. If emissions from compressor scrubber dump valve leakage are routed to a flare, you must calculate CH_4, CO_2, and N_2O annual emissions as specified in paragraph (k)(5) of this section.

(1) Except as specified in paragraph (k)(1)(iv) of this section, you must monitor the tank vapor vent stack annually for emissions using one of the methods specified in paragraphs (k)(1)(i) through (iii) of this section.

(i) Use an optical gas imaging instrument according to methods set forth in § 98.234(a)(1).

(ii) Measure the tank vent directly using a flow meter or high volume sampler according to methods in § 98.234(b) or (d) for a duration of 5 minutes.

(iii) Measure the tank vent using a calibrated bag according to methods in § 98.234(c) for a duration of 5 minutes or until the bag is full, whichever is shorter.

(iv) You may annually monitor leakage through compressor scrubber dump valve(s) into the tank using an acoustic leak detection device according to methods set forth in § 98.234(a)(5).

(2) If the tank vapors from the vent stack are continuous for 5 minutes, or the optical gas imaging instrument or acoustic leak detection device detects a leak, then you must use one of the methods in either paragraph (k)(2)(i) or (ii) of this section.

(i) Use a flow meter, such as a turbine meter, calibrated bag, or high volume sampler to estimate tank vapor volumes from the vent stack according to methods set forth in § 98.234(b) through (d). If you do not have a continuous flow measurement device, you may install a flow measuring device on the tank vapor vent stack. If the vent is directly measured for five minutes under paragraph (k)(1)(ii) or (iii) of this section to detect continuous leakage, this serves as the measurement.

(ii) Use an acoustic leak detection device on each scrubber dump valve connected to the tank according to the method set forth in § 98.234(a)(5).

(3) If a leaking dump valve is identified, the leak must be counted as having occurred since the beginning of the calendar year, or from the previous test that did not detect leaking in the same calendar year. If the leaking dump valve is fixed following leak detection, the leak duration will end upon being repaired. If a leaking dump valve is identified and not repaired, the leak must be counted as having occurred through the rest of the calendar year.

(4) Use the requirements specified in paragraphs (k)(4)(i) and (ii) of this section to quantify annual emissions.

(i) Use the appropriate gas composition in paragraph (u)(2)(iii) of this section.

(ii) Calculate CH_4 and CO_2 volumetric and mass emissions at standard conditions using calculations in paragraphs (t), (u), and (v) of this section, as applicable to the monitoring equipment used.

(5) Calculate annual emissions from storage tanks to flares as specified in paragraphs (k)(5)(i) and (ii) of this section.

(i) Use the storage tank emissions volume and gas composition as determined in paragraphs (k)(1) through (4) of this section.

(ii) Use the calculation method of flare stacks in paragraph (n) of this section to determine storage tank emissions sent to a flare.

(l) *Well testing venting and flaring.* Calculate CH_4 and CO_2 annual emissions from well testing venting as specified in paragraphs (l)(1) through (5) of this section. If emissions from well testing venting are routed to a flare, you must calculate CH_4, CO_2, and N_2O annual emissions as specified in paragraph (l)(6) of this section.

(1) Determine the gas to oil ratio (GOR) of the hydrocarbon production from oil well(s) tested. Determine the production rate from gas well(s) tested.

(2) If GOR cannot be determined from your available data, then you must measure quantities reported in this section according to one of the procedures specified in paragraph (l)(2)(i) or (ii) of this section to determine GOR.

(i) You may use an appropriate standard method published by a consensus-based standards organization if such a method exists.

(ii) You may use an industry standard practice as described in § 98.234(b).

(3) Estimate venting emissions using Equation W–17A (for oil wells) or Equation W–17B (for gas wells) of this section.

$$E_{a,n} = GOR * FR * D \quad \text{(Eq. W-17A)}$$

$$E_{a,n} = PR * D \quad \text{(Eq. W-17B)}$$

Where:

$E_{a,n}$ = Annual volumetric natural gas emissions from well(s) testing in cubic feet under actual conditions.

GOR = Gas to oil ratio in cubic feet of gas per barrel of oil; oil here refers to hydrocarbon liquids produced of all API gravities.

FR = Average annual flow rate in barrels of oil per day for the oil well(s) being tested.

PR = Average annual production rate in actual cubic feet per day for the gas well(s) being tested.

D = Number of days during the calendar year that the well(s) is tested.

(4) Calculate natural gas volumetric emissions at standard conditions using calculations in paragraph (t) of this section.

(5) Calculate both CH_4 and CO_2 volumetric and mass emissions from natural gas volumetric emissions using calculations in paragraphs (u) and (v) of this section.

(6) Calculate emissions from well testing if emissions are routed to a flare as specified in paragraphs (l)(6)(i) and (ii) of this section.

(i) Use the well testing emissions volume and gas composition as determined in paragraphs (l)(1) through (4) of this section.

(ii) Use the calculation method of flare stacks in paragraph (n) of this section to determine well testing emissions from the flare.

(m) *Associated gas venting and flaring.* Calculate CH_4 and CO_2 annual emissions from associated gas venting not in conjunction with well testing (refer to paragraph (l): Well testing venting and flaring of this section) as specified in paragraphs (m)(1) through (4) of this section. If emissions from associated gas venting are routed to a flare, you must calculate CH_4, CO_2, and N_2O annual emissions as specified in paragraph (m)(5) of this section.

(1) Determine the GOR of the hydrocarbon production from each well whose associated natural gas is vented or flared. If GOR from each well is not available, use the GOR from a cluster of wells in the same sub-basin category.

(2) If GOR cannot be determined from your available data, then you must use one of the procedures specified in paragraphs (m)(2)(i) or (ii) of this section to determine GOR.

(i) You may use an appropriate standard method published by a consensus-based standards organization if such a method exists.

(ii) You may use an industry standard practice as described in § 98.234(b).

(3) Estimate venting emissions using Equation W–18 of this section.

$$E_{s,n} = \sum_{q=1}^{y} \sum_{p=1}^{x} \left[\left(GOR_{p,q} * V_{p,q} \right) - SG_{p,q} \right] \qquad \text{(Eq. W-18)}$$

Where:

$E_{s,n}$ = Annual volumetric natural gas emissions, at the facility level, from associated gas venting at standard conditions, in cubic feet.

$GOR_{p,q}$ = Gas to oil ratio, for well p in sub-basin q, in standard cubic feet of gas per barrel of oil; oil here refers to hydrocarbon liquids produced of all API gravities.

$V_{p,q}$ = Volume of oil produced, for well p in sub-basin q, in barrels in the calendar year during time periods in which associated gas was vented or flared.

$SG_{p,q}$ = Volume of associated gas sent to sales, for well p in sub-basin q, in standard cubic feet of gas in the calendar year during time periods in which associated gas was vented or flared.

x = Total number of wells in sub-basin that vent or flare associated gas.

y = Total number of sub-basins in a basin that contain wells that vent or flare associated gas.

(4) Calculate both CH_4 and CO_2 volumetric and mass emissions from volumetric natural gas emissions using calculations in paragraphs (u) and (v) of this section.

(5) Calculate emissions from associated natural gas if emissions are routed to a flare as specified in paragraphs (m)(5)(i) and (ii) of this section.

(i) Use the associated natural gas volume and gas composition as determined in paragraph (m)(1) through (4) of this section.

(ii) Use the calculation method of flare stacks in paragraph (n) of this section to determine associated gas emissions from the flare.

(n) *Flare stack emissions.* Calculate CO_2, CH_4, and N_2O emissions from a flare stack as specified in paragraphs (n)(1) through (9) of this section.

(1) If you have a continuous flow measurement device on the flare, you must use the measured flow volumes to calculate the flare gas emissions. If all of the flare gas is not measured by the existing flow measurement device, then the flow not measured can be estimated using engineering calculations based on best available data or company records. If you do not have a continuous flow measurement device on the flare, you can use engineering calculations based on process knowledge, company records, and best available data.

(2) If you have a continuous gas composition analyzer on gas to the flare, you must use these compositions in calculating emissions. If you do not have a continuous gas composition analyzer on gas to the flare, you must use the appropriate gas compositions for each stream of hydrocarbons going to the flare as specified in paragraphs (n)(2)(i) through (iii) of this section.

(i) For onshore natural gas production, determine the GHG mole fraction using paragraph (u)(2)(i) of this section.

(ii) For onshore natural gas processing, when the stream going to flare is natural gas, use the GHG mole fraction in feed natural gas for all streams upstream of the de-methanizer or dew point control, and GHG mole fraction in facility specific residue gas to transmission pipeline systems for all emissions sources downstream of the demethanizer overhead or dew point control for onshore natural gas processing facilities. For onshore natural gas processing plants that solely fractionate a liquid stream, use the GHG mole fraction in feed natural gas liquid for all streams.

(iii) For any industry segment required to report to flare stack emissions under § 98.232, when the stream going to the flare is a hydrocarbon product stream, such as methane, ethane, propane, butane, pentane-plus and mixed light hydrocarbons, then you

may use a representative composition from the source for the stream determined by engineering calculation based on process knowledge and best available data.

(3) Determine flare combustion efficiency from manufacturer. If not available, assume that flare combustion efficiency is 98 percent.

(4) Convert GHG volumetric emissions to standard conditions using calculations in paragraph (t) of this section.

(5) Calculate GHG volumetric emissions from flaring at standard conditions using Equations W–19 and W–20 of this section.

$$E_{s,CH4} = V_s * X_{CH4} * \left[(1-\eta) * Z_L + Z_U \right] \quad \text{(Eq. W-19)}$$

$$E_{s,CO2} = V_s * X_{CO2} + \sum_{j=1}^{5} \left(\eta * V_s * Y_j * R_j * Z_L \right) \quad \text{(Eq. W-20)}$$

Where:

$E_{s,CH4}$ = Annual CH_4 emissions from flare stack in cubic feet, at standard conditions.

$E_{s,CO2}$ = Annual CO_2 emissions from flare stack in cubic feet, at standard conditions.

V_s = Volume of gas sent to flare in standard cubic feet, during the year as determined in paragraph (n)(1) of this section.

η = Flare combustion efficiency, expressed as fraction of gas combusted by a burning flare (default is 0.98).

X_{CH4} = Mole fraction of CH_4 in the feed gas to the flare as determined in paragraph (n)(2) of this section.

X_{CO2} = Mole fraction of CO_2 in the feed gas to the flare as determined in paragraph (n)(2) of this section.

Z_U = Fraction of the feed gas sent to an unlit flare determined by engineering estimate and process knowledge based on best available data and operating records.

Z_L = Fraction of the feed gas sent to a burning flare (equal to $1 - Z_U$).

Y_j = Mole fraction of hydrocarbon constituents j (such as methane, ethane, propane, butane, and pentanes-plus) in the feed gas to the flare as determined in paragraph (n)(1) of this section.

R_j = Number of carbon atoms in the hydrocarbon constituent j in the feed gas to the flare: 1 for methane, 2 for ethane, 3 for propane, 4 for butane, and 5 for pentanes-plus).

(6) Calculate both CH_4 and CO_2 mass emissions from volumetric emissions using calculation in paragraph (v) of this section.

(7) Calculate N_2O emissions from flare stacks using Equation W–40 in paragraph (z) of this section.

(8) If you operate and maintain a CEMS that has both a CO_2 concentration monitor and volumetric flow rate monitor for the combustion gases from the flare, you must calculate only CO_2 emissions for the flare. You must follow the Tier 4 Calculation Method and all associated calculation, quality assurance, reporting, and recordkeeping requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources). If a CEMS is used to calculate flare stack emissions, the requirements specified in paragraphs (n)(1) through (7) of this section are not required.

(9) The flare emissions determined under this paragraph (n) must be corrected for flare emissions calculated and reported under other paragraphs of this section to avoid double counting of these emissions.

(o) *Centrifugal compressor venting.* If you are required to report emissions from centrifugal compressor venting as specified in § 98.232(d)(2), (e)(2), (f)(2), (g)(2), and (h)(2), you must conduct volumetric emission measurements specified in paragraph (o)(1) of this section using methods specified in paragraphs (o)(2) through (5) of this section; perform calculations specified in paragraphs (o)(6) through (9) of this section; and calculate CH_4 and CO_2 mass emissions as specified in paragraph (o)(11) of this section. If emissions from a

compressor source are routed to a flare, paragraphs (o)(1) through (11) of this section do not apply and instead you must calculate CH_4, CO_2, and N_2O emissions as specified in paragraph (o)(12) of this section. If emissions from a compressor source are captured for fuel use or are routed to a thermal oxidizer, paragraphs (o)(1) through (12) of this section do not apply and instead you must calculate and report emissions as specified in subpart C of this part. If emissions from a compressor source are routed to vapor recovery, paragraphs (o)(1) through (12) of this section do not apply. If you are required to report emissions from centrifugal compressor venting at an onshore petroleum and natural gas production facility as specified in § 98.232(c)(19), you must calculate volumetric emissions as specified in paragraph (o)(10) of this section; and calculate CH_4 and CO_2 mass emissions as specified in paragraph (o)(11) of this section.

(1) *General requirements for conducting volumetric emission measurements.* You must conduct volumetric emission measurements on each centrifugal compressor as specified in this paragraph. Compressor sources (as defined in § 98.238) without manifolded vents must use a measurement method specified in paragraph (o)(1)(i) or (ii) of this section. Manifolded compressor sources (as defined in § 98.238) must use a measurement method specified in paragraph (o)(1)(i), (ii), (iii), or (iv) of this section.

(i) Centrifugal compressor source as found measurements. Measure venting from each compressor according to either paragraph (o)(1)(i)(A) or (B) of this section at least once annually, based on the compressor mode (as defined in § 98.238) in which the compressor was found at the time of measurement, except as specified in paragraphs (o)(1)(i)(C) and (D) of this section. If additional measurements beyond the required annual testing are performed (including duplicate measurements or measurement of additional operating modes), then all measurements satisfying the applicable monitoring and QA/QC that is required by this paragraph (o) must be used in the calculations specified in this section.

(A) For a compressor measured in operating-mode, you must measure volumetric emissions from blowdown valve leakage through the blowdown vent as specified in either paragraph (o)(2)(i)(A) or (B) of this section and, if the compressor has wet seal oil degassing vents, measure volumetric emissions from wet seal oil degassing vents as specified in paragraph (o)(2)(ii) of this section.

(B) For a compressor measured in not-operating-depressurized-mode, you must measure volumetric emissions from isolation valve leakage as specified in either paragraph (o)(2)(i)(A), (B), or (C) of this section. If a compressor is not operated and has blind flanges in place throughout the reporting period, measurement is not required in this compressor mode.

(C) You must measure the compressor as specified in paragraph (o)(1)(i)(B) of this section at least once in any three consecutive calendar years, provided the measurement can be taken during a scheduled shutdown. If three consecutive calendar years occur without measuring the compressor in not-operating-depressurized-mode, you must measure the compressor as specified in paragraph (o)(1)(i)(B) of this section at the next scheduled depressurized shutdown. The requirement specified in this paragraph does not apply if the compressor has blind flanges in place throughout the reporting year. For purposes of this paragraph, a scheduled shutdown means a shutdown that requires a compressor to be taken off-line for planned or scheduled maintenance. A scheduled shutdown does not include instances when a compressor is taken offline due to a decrease in demand but must remain available.

(D) An annual as found measurement is not required in the first year of operation for any new compressor that begins operation after as found measurements have been conducted for all existing compressors. For only the first year of operation of new compressors, calculate emissions according to paragraph (o)(6)(ii) of this section.

(ii) Centrifugal compressor source continuous monitoring. Instead of measuring the compressor source according to paragraph (o)(1)(i) of this

section for a given compressor, you may elect to continuously measure volumetric emissions from a compressor source as specified in paragraph (o)(3) of this section.

(iii) Manifolded centrifugal compressor source as found measurements. For a compressor source that is part of a manifolded group of compressor sources (as defined in § 98.238), instead of measuring the compressor source according to paragraph (o)(1)(i), (ii), or (iv) of this section, you may elect to measure combined volumetric emissions from the manifolded group of compressor sources by conducting measurements at the common vent stack as specified in paragraph (o)(4) of this section. The measurements must be conducted at the frequency specified in paragraphs (o)(1)(iii)(A) and (B) of this section.

(A) A minimum of one measurement must be taken for each manifolded group of compressor sources in a calendar year.

(B) The measurement may be performed while the compressors are in any compressor mode.

(iv) Manifolded centrifugal compressor source continuous monitoring. For a compressor source that is part of a manifolded group of compressor sources, instead of measuring the compressor source according to paragraph (o)(1)(i), (ii), or (iii) of this section, you may elect to continuously measure combined volumetric emissions from the manifolded group of compressor sources as specified in paragraph (o)(5) of this section.

(2) *Methods for performing as found measurements from individual centrifugal compressor sources.* If conducting measurements for each compressor source, you must determine the volumetric emissions from blowdown valves and isolation valves as specified in paragraph (o)(2)(i) of this section, and the volumetric emissions from wet seal oil degassing vents as specified in paragraph (o)(2)(ii) of this section.

(i) For blowdown valves on compressors in operating-mode and for isolation valves on compressors in not-operating-depressurized-mode, determine the volumetric emissions using one of the methods specified in paragraphs (o)(2)(i)(A) through (D) of this section.

(A) Determine the volumetric flow at standard conditions from the blowdown vent using calibrated bagging or high volume sampler according to methods set forth in § 98.234(c) and § 98.234(d), respectively.

(B) Determine the volumetric flow at standard conditions from the blowdown vent using a temporary meter such as a vane anemometer according to methods set forth in § 98.234(b).

(C) Use an acoustic leak detection device according to methods set forth in § 98.234(a)(5).

(D) You may choose to use any of the methods set forth in § 98.234(a) to screen for emissions. If emissions are detected using the methods set forth in § 98.234(a), then you must use one of the methods specified in paragraph (o)(2)(i)(A) through (C) of this section. If emissions are not detected using the methods in § 98.234(a), then you may assume that the volumetric emissions are zero. For the purposes of this paragraph, when using any of the methods in § 98.234(a), emissions are detected whenever a leak is detected according to the methods.

(ii) For wet seal oil degassing vents in operating-mode, determine vapor volumes at standard conditions, using a temporary meter such as a vane anemometer or permanent flow meter according to methods set forth in § 98.234(b).

(3) *Methods for continuous measurement from individual centrifugal compressor sources.* If you elect to conduct continuous volumetric emission measurements for an individual compressor source as specified in paragraph (o)(1)(ii) of this section, you must measure volumetric emissions as specified in paragraphs (o)(3)(i) and (ii) of this section.

(i) Continuously measure the volumetric flow for the individual compressor source at standard conditions using a permanent meter according to methods set forth in § 98.234(b).

(ii) If compressor blowdown emissions are included in the metered emissions specified in paragraph (o)(3)(i) of this section, the compressor blowdown emissions may be included with the reported emissions for the compressor source and do not need to be calculated separately using the method specified

in paragraph (i) of this section for blowdown vent stacks.

(4) *Methods for performing as found measurements from manifolded groups of centrifugal compressor sources.* If conducting measurements for a manifolded group of compressor sources, you must measure volumetric emissions as specified in paragraphs (o)(4)(i) and (ii) of this section.

(i) Measure at a single point in the manifold downstream of all compressor inputs and, if practical, prior to comingling with other non-compressor emission sources.

(ii) Determine the volumetric flow at standard conditions from the common stack using one of the methods specified in paragraphs (o)(4)(ii)(A) through (E) of this section.

(A) A temporary meter such as a vane anemometer according the methods set forth in § 98.234(b).

(B) Calibrated bagging according to methods set forth in § 98.234(c).

(C) A high volume sampler according to methods set forth § 98.234(d).

(D) An acoustic leak detection device according to methods set forth in § 98.234(a)(5).

(E) You may choose to use any of the methods set forth in § 98.234(a) to screen for emissions. If emissions are detected using the methods set forth in § 98.234(a), then you must use one of the methods specified in paragraph (o)(4)(ii)(A) through (o)(4)(ii)(D) of this section. If emissions are not detected using the methods in § 98.234(a), then you may assume that the volumetric emissions are zero. For the purposes of this paragraph, when using any of the methods in § 98.234(a), emissions are detected whenever a leak is detected according to the method.

(5) *Methods for continuous measurement from manifolded groups of centrifugal compressor sources.* If you elect to conduct continuous volumetric emission measurements for a manifolded group of compressor sources as specified in paragraph (o)(1)(iv) of this section, you must measure volumetric emissions as specified in paragraphs (o)(5)(i) through (iii) of this section.

(i) Measure at a single point in the manifold downstream of all compressor inputs and, if practical, prior to comingling with other non-compressor emission sources.

(ii) Continuously measure the volumetric flow for the manifolded group of compressor sources at standard conditions using a permanent meter according to methods set forth in § 98.234(b).

(iii) If compressor blowdown emissions are included in the metered emissions specified in paragraph (o)(5)(ii) of this section, the compressor blowdown emissions may be included with the reported emissions for the manifolded group of compressor sources and do not need to be calculated separately using the method specified in paragraph (i) of this section for blowdown vent stacks.

(6) *Method for calculating volumetric GHG emissions from as found measurements for individual centrifugal compressor sources.* For compressor sources measured according to paragraph (o)(1)(i) of this section, you must calculate annual GHG emissions from the compressor sources as specified in paragraphs (o)(6)(i) through (iv) of this section.

(i) Using Equation W–21 of this section, calculate the annual volumetric GHG emissions for each centrifugal compressor mode-source combination specified in paragraphs (o)(1)(i)(A) and (B) of this section that was measured during the reporting year.

$$E_{s,i,m} = MT_{s,m} * T_m * GHG_{i,m} \qquad \text{(Eq. W-21)}$$

Where:

$E_{s,i,m}$ = Annual volumetric GHG_i (either CH_4 or CO_2) emissions for measured compressor mode-source combination m, at standard conditions, in cubic feet.

$MT_{s,m}$ = Volumetric gas emissions for measured compressor mode-source combination m, in standard cubic feet per hour, measured according to paragraph (o)(2) of this section. If multiple measurements are performed for a given mode-source

combination m, use the average of all measurements.

T_m = Total time the compressor is in the mode-source combination for which $E_{s,i,m}$ is being calculated in the reporting year, in hours.

$GHG_{i,m}$ = Mole fraction of GHG_i in the vent gas for measured compressor mode-source combination m; use the appropriate gas compositions in paragraph (u)(2) of this section.

m = Compressor mode-source combination specified in paragraph (o)(1)(i)(A) or (o)(1)(i)(B) of this section that was measured for the reporting year.

(ii) Using Equation W–22 of this section, calculate the annual volumetric GHG emissions from each centrifugal compressor mode-source combination specified in paragraph (o)(1)(i)(A) and (B) of this section that was not measured during the reporting year.

$$E_{s,i,m} = EF_{s,m} * T_m * GHG_{i,m} \qquad \text{(Eq. W-22)}$$

Where:

$E_{s,i,m}$ = Annual volumetric GHG_i (either CH_4 or CO_2) emissions for unmeasured compressor mode-source combination m, at standard conditions, in cubic feet.

$EF_{s,m}$ = Reporter emission factor for compressor mode-source combination m, in standard cubic feet per hour, as calculated in paragraph (o)(6)(iii) of this section.

T_m = Total time the compressor was in the unmeasured mode-source combination m, for which $E_{s,i,m}$ is being calculated in the reporting year, in hours.

$GHG_{i,m}$ = Mole fraction of GHG_i in the vent gas for unmeasured compressor mode-source combination m; use the appropriate gas compositions in paragraph (u)(2) of this section.

m = Compressor mode-source combination specified in paragraph (o)(1)(i)(A) or (o)(1)(i)(B) of this section that was not measured in the reporting year.

(iii) Using Equation W–23 of this section, develop an emission factor for each compressor mode-source combination specified in paragraph (o)(1)(i)(A) and (B) of this section. These emission factors must be calculated annually and used in Equation W–22 of this section to determine volumetric emissions from a centrifugal compressor in the mode-source combinations that were not measured in the reporting year.

$$EF_{s,m} = \frac{\sum_{p=1}^{Count_m} MT_{s,m,p}}{Count_m} \qquad \text{(Eq. W-23)}$$

Where:

$EF_{s,m}$ = Reporter emission factor to be used in Equation W–22 of this section for compressor mode-source combination m, in standard cubic feet per hour. The reporter emission factor must be based on all compressors measured in compressor mode-source combination m in the current reporting year and the preceding two reporting years.

$MT_{s,m,p}$ = Average volumetric gas emission measurement for compressor mode-source combination m, for compressor p, in standard cubic feet per hour, calculated using all volumetric gas emission measurements ($MT_{s,m}$ in Equation W–21 of this section) for compressor mode-source combination m for compressor p in the current reporting year and the preceding two reporting years.

$Count_m$ = Total number of compressors measured in compressor mode-source combination m in the current reporting year and the preceding two reporting years.

m = Compressor mode-source combination specified in paragraph (o)(1)(i)(A) or (o)(1)(i)(B) of this section.

(iv) The reporter emission factor in Equation W–23 of this section may be calculated by using all measurements from a single owner or operator instead

of only using measurements from a single facility. If you elect to use this option, the reporter emission factor must be applied to all reporting facilities for the owner or operator.

(7) *Method for calculating volumetric GHG emissions from continuous monitoring of individual centrifugal compressor sources.* For compressor sources measured according to paragraph (o)(1)(ii) of this section, you must use the continuous volumetric emission measurements taken as specified in paragraph (o)(3) of this section and calculate annual volumetric GHG emissions associated with the compressor source using Equation W–24A of this section.

$$E_{s,i,v} = Q_{s,v} * GHG_{i,v} \qquad \text{(Eq. W-24A)}$$

Where:

$E_{s,i,v}$ = Annual volumetric GHG_i (either CH_4 or CO_2) emissions from compressor source v, at standard conditions, in cubic feet.

$Q_{s,v}$ = Volumetric gas emissions from compressor source v, for reporting year, in standard cubic feet.

$GHG_{i,v}$ = Mole fraction of GHG_i in the vent gas for compressor source v; use the appropriate gas compositions in paragraph (u)(2) of this section.

(8) *Method for calculating volumetric GHG emissions from as found measurements of manifolded groups of centrifugal compressor sources.* For manifolded groups of compressor sources measured according to paragraph (o)(1)(iii) of this section, you must calculate annual volumetric GHG emissions using Equation W–24B of this section. If the centrifugal compressors included in the manifolded group of compressor sources share the manifold with reciprocating compressors, you must follow the procedures in either this paragraph (o)(8) or paragraph (p)(8) of this section to calculate emissions from the manifolded group of compressor sources.

$$E_{s,i,g} = T_g * MT_{s,g,avg} * GHG_{i,g} \qquad \text{(Eq. W-24B)}$$

Where:

$E_{s,i,g}$ = Annual volumetric GHG_i (either CH_4 or CO_2) emissions for manifolded group of compressor sources g, at standard conditions, in cubic feet.

T_g = Total time the manifolded group of compressor sources g had potential for emissions in the reporting year, in hours. Include all time during which at least one compressor source in the manifolded group of compressor sources g was in a mode-source combination specified in either paragraph (o)(1)(i)(A), (o)(1)(i)(B), (p)(1)(i)(A), (p)(1)(i)(B), or (p)(1)(i)(C) of this section. Default of 8760 hours may be used.

$MT_{s,g,avg}$ = Average volumetric gas emissions of all measurements performed in the reporting year according to paragraph (o)(4) of this section for the manifolded group of compressor sources g, in standard cubic feet per hour.

$GHG_{i,g}$ = Mole fraction of GHG_i in the vent gas for manifolded group of compressor sources g; use the appropriate gas compositions in paragraph (u)(2) of this section.

(9) *Method for calculating volumetric GHG emissions from continuous monitoring of manifolded group of centrifugal compressor sources.* For a manifolded group of compressor sources measured according to paragraph (o)(1)(iv) of this section, you must use the continuous volumetric emission measurements taken as specified in paragraph (o)(5) of this section and calculate annual volumetric GHG emissions associated with each manifolded group of compressor sources using Equation W–24C of this section. If the centrifugal compressors included in the manifolded group of compressor sources share the manifold with reciprocating compressors, you must follow the procedures in either this paragraph (o)(9) or paragraph (p)(9) of this section to calculate emissions

from the manifolded group of compressor sources.

$$E_{s,i,g} = Q_{s,g} * GHG_{i,g} \quad \text{(Eq. W-24C)}$$

Where:

$E_{s,i,g}$ = Annual volumetric GHG_i (either CH_4 or CO_2) emissions from manifolded group of compressor sources g, at standard conditions, in cubic feet.

$Q_{s,g}$ = Volumetric gas emissions from manifolded group of compressor sources g, for reporting year, in standard cubic feet.

$GHG_{i,g}$ = Mole fraction of GHG_i in the vent gas for measured manifolded group of compressor sources g; use the appropriate gas compositions in paragraph (u)(2) of this section.

(10) *Method for calculating volumetric GHG emissions from wet seal oil degassing vents at an onshore petroleum and natural gas production facility*. You must calculate emissions from centrifugal compressor wet seal oil degassing vents at an onshore petroleum and natural gas production facility using Equation W–25 of this section.

$$E_{s,i} = Count * EF_{i,s} \quad \text{(Eq. W-25)}$$

Where:

$E_{s,i}$ = Annual volumetric GHG_i (either CH_4 or CO_2) emissions from centrifugal compressor wet seals, at standard conditions, in cubic feet.

Count = Total number of centrifugal compressors that have wet seal oil degassing vents.

$EF_{i,s}$ = Emission factor for GHG_i. Use 1.2×10^7 standard cubic feet per year per compressor for CH_4 and 5.30×10^5 standard cubic feet per year per compressor for CO_2 at 60 °F and 14.7 psia.

(11) *Method for converting from volumetric to mass emissions*. You must calculate both CH_4 and CO_2 mass emissions from volumetric emissions using calculations in paragraph (v) of this section.

(12) *General requirements for calculating volumetric GHG emissions from centrifugal compressors routed to flares*. You must calculate and report emissions from all centrifugal compressor sources that are routed to a flare as specified in paragraphs (o)(12)(i) through (iii) of this section.

(i) Paragraphs (o)(1) through (11) of this section are not required for compressor sources that are routed to a flare.

(ii) If any compressor sources are routed to a flare, calculate the emissions for the flare stack as specified in paragraph (n) of this section and report emissions from the flare as specified in § 98.236(n), without subtracting emissions attributable to compressor sources from the flare.

(iii) Report all applicable activity data for compressors with compressor sources routed to flares as specified in § 98.236(o).

(p) *Reciprocating compressor venting*. If you are required to report emissions from reciprocating compressor venting as specified in § 98.232(d)(1), (e)(1), (f)(1), (g)(1), and (h)(1), you must conduct volumetric emission measurements specified in paragraph (p)(1) of this section using methods specified in paragraphs (p)(2) through (5) of this section; perform calculations specified in paragraphs (p)(6) through (9) of this section; and calculate CH_4 and CO_2 mass emissions as specified in paragraph (p)(11) of this section. If emissions from a compressor source are routed to a flare, paragraphs (p)(1) through (11) of this section do not apply and instead you must calculate CH_4, CO_2, and N_2O emissions as specified in paragraph (p)(12) of this section. If emissions from a compressor source are captured for fuel use or are routed to a thermal oxidizer, paragraphs (p)(1) through (12) of this section do not apply and instead

you must calculate and report emissions as specified in subpart C of this part. If emissions from a compressor source are routed to vapor recovery, paragraphs (p)(1) through (12) of this section do not apply. If you are required to report emissions from reciprocating compressor venting at an onshore petroleum and natural gas production facility as specified in § 98.232(c)(11), you must calculate volumetric emissions as specified in paragraph (p)(10) of this section; and calculate CH_4 and CO_2 mass emissions as specified in paragraph (p)(11) of this section.

(1) *General requirements for conducting volumetric emission measurements.* You must conduct volumetric emission measurements on each reciprocating compressor as specified in this paragraph. Compressor sources (as defined in § 98.238) without manifolded vents must use a measurement method specified in paragraph (p)(1)(i) or (ii) of this section. Manifolded compressor sources (as defined in § 98.238) must use a measurement method specified in paragraph (p)(1)(i), (ii), (iii), or (iv) of this section.

(i) Reciprocating compressor source as found measurements. Measure venting from each compressor according to either paragraph (p)(1)(i)(A), (B), or (C) of this section at least once annually, based on the compressor mode (as defined in § 98.238) in which the compressor was found at the time of measurement, except as specified in paragraphs (p)(1)(i)(D) and (E) of this section. If additional measurements beyond the required annual testing are performed (including duplicate measurements or measurement of additional operating modes), then all measurements satisfying the applicable monitoring and QA/QC that is required by this paragraph (o) must be used in the calculations specified in this section.

(A) For a compressor measured in operating-mode, you must measure volumetric emissions from blowdown valve leakage through the blowdown vent as specified in either paragraph (p)(2)(i)(A) or (B) of this section, and measure volumetric emissions from reciprocating rod packing as specified in paragraph (p)(2)(ii) of this section.

(B) For a compressor measured in standby-pressurized-mode, you must measure volumetric emissions from blowdown valve leakage through the blowdown vent as specified in either paragraph (p)(2)(i)(A) or (B) of this section.

(C) For a compressor measured in not-operating-depressurized-mode, you must measure volumetric emissions from isolation valve leakage as specified in either paragraph (p)(2)(i)(A), (B), or (C) of this section. If a compressor is not operated and has blind flanges in place throughout the reporting period, measurement is not required in this compressor mode.

(D) You must measure the compressor as specified in paragraph (p)(1)(i)(C) of this section at least once in any three consecutive calendar years, provided the measurement can be taken during a scheduled shutdown. If there is no scheduled shutdown within three consecutive calendar years, you must measure the compressor as specified in paragraph (p)(1)(i)(C) of this section at the next scheduled depressurized shutdown. For purposes of this paragraph, a scheduled shutdown means a shutdown that requires a compressor to be taken off-line for planned or scheduled maintenance. A scheduled shutdown does not include instances when a compressor is taken offline due to a decrease in demand but must remain available.

(E) An annual as found measurement is not required in the first year of operation for any new compressor that begins operation after as found measurements have been conducted for all existing compressors. For only the first year of operation of new compressors, calculate emissions according to paragraph (p)(6)(ii) of this section.

(ii) Reciprocating compressor source continuous monitoring. Instead of measuring the compressor source according to paragraph (p)(1)(i) of this section for a given compressor, you may elect to continuously measure volumetric emissions from a compressor source as specified in paragraph (p)(3) of this section.

(iii) Manifolded reciprocating compressor source as found measurements. For a compressor source that is part of a manifolded group of compressor

sources (as defined in § 98.238), instead of measuring the compressor source according to paragraph (p)(1)(i), (ii), or (iv) of this section, you may elect to measure combined volumetric emissions from the manifolded group of compressor sources by conducting measurements at the common vent stack as specified in paragraph (p)(4) of this section. The measurements must be conducted at the frequency specified in paragraphs (p)(1)(iii)(A) and (B) of this section.

(A) A minimum of one measurement must be taken for each manifolded group of compressor sources in a calendar year.

(B) The measurement may be performed while the compressors are in any compressor mode.

(iv) Manifolded reciprocating compressor source continuous monitoring. For a compressor source that is part of a manifolded group of compressor sources, instead of measuring the compressor source according to paragraph (p)(1)(i), (ii), or (iii) of this section, you may elect to continuously measure combined volumetric emissions from the manifolded group of compressors sources as specified in paragraph (p)(5) of this section.

(2) *Methods for performing as found measurements from individual reciprocating compressor sources.* If conducting measurements for each compressor source, you must determine the volumetric emissions from blowdown valves and isolation valves as specified in paragraph (p)(2)(i) of this section. You must determine the volumetric emissions from reciprocating rod packing as specified in paragraph (p)(2)(ii) or (iii) of this section.

(i) For blowdown valves on compressors in operating-mode or standby-pressurized-mode, and for isolation valves on compressors in not-operating-depressurized-mode, determine the volumetric emissions using one of the methods specified in paragraphs (p)(2)(i)(A) through (D) of this section.

(A) Determine the volumetric flow at standard conditions from the blowdown vent using calibrated bagging or high volume sampler according to methods set forth in § 98.234(c) and (d), respectively.

(B) Determine the volumetric flow at standard conditions from the blowdown vent using a temporary meter such as a vane anemometer, according to methods set forth in § 98.234(b).

(C) Use an acoustic leak detection device according to methods set forth in § 98.234(a)(5).

(D) You may choose to use any of the methods set forth in § 98.234(a) to screen for emissions. If emissions are detected using the methods set forth in § 98.234(a), then you must use one of the methods specified in paragraphs (p)(2)(i)(A) through (C) of this section. If emissions are not detected using the methods in § 98.234(a), then you may assume that the volumetric emissions are zero. For the purposes of this paragraph, when using any of the methods in § 98.234(a), emissions are detected whenever a leak is detected according to the method.

(ii) For reciprocating rod packing equipped with an open-ended vent line on compressors in operating-mode, determine the volumetric emissions using one of the methods specified in paragraphs (p)(2)(ii)(A) through (C) of this section.

(A) Determine the volumetric flow at standard conditions from the open-ended vent line using calibrated bagging or high volume sampler according to methods set forth in § 98.234(c) and (d), respectively.

(B) Determine the volumetric flow at standard conditions from the open-ended vent line using a temporary meter such as a vane anemometer, according to methods set forth in § 98.234(b).

(C) You may choose to use any of the methods set forth in § 98.234(a) to screen for emissions. If emissions are detected using the methods set forth in § 98.234(a), then you must use one of the methods specified in paragraph (p)(2)(ii)(A) and (p)(4)(ii)(B) of this section. If emissions are not detected using the methods in § 98.234(a), then you may assume that the volumetric emissions are zero. For the purposes of this paragraph, when using any of the methods in § 98.234(a), emissions are detected whenever a leak is detected according to the method.

(iii) For reciprocating rod packing not equipped with an open-ended vent

line on compressors in operating-mode, you must determine the volumetric emissions using the method specified in paragraphs (p)(2)(iii)(A) and (B) of this section.

(A) You must use the methods described in § 98.234(a) to conduct annual leak detection of equipment leaks from the packing case into an open distance piece, or for compressors with a closed distance piece, conduct annual detection of gas emissions from the rod packing vent, distance piece vent, compressor crank case breather cap, or other vent emitting gas from the rod packing.

(B) You must measure emissions found in paragraph (p)(2)(iii)(A) of this section using an appropriate meter, calibrated bag, or high volume sampler according to methods set forth in § 98.234(b), (c), and (d), respectively.

(3) *Methods for continuous measurement from individual reciprocating compressor sources.* If you elect to conduct continuous volumetric emission measurements for an individual compressor source as specified in paragraph (p)(1)(ii) of this section, you must measure volumetric emissions as specified in paragraphs (p)(3)(i) and (p)(3)(ii) of this section.

(i) Continuously measure the volumetric flow for the individual compressor sources at standard conditions using a permanent meter according to methods set forth in § 98.234(b).

(ii) If compressor blowdown emissions are included in the metered emissions specified in paragraph (p)(3)(i) of this section, the compressor blowdown emissions may be included with the reported emissions for the compressor source and do not need to be calculated separately using the method specified in paragraph (i) of this section for blowdown vent stacks.

(4) *Methods for performing as found measurements from manifolded groups of reciprocating compressor sources.* If conducting measurements for a manifolded group of compressor sources, you must measure volumetric emissions as specified in paragraphs (p)(4)(i) and (ii) of this section.

(i) Measure at a single point in the manifold downstream of all compressor inputs and, if practical, prior to comingling with other non-compressor emission sources.

(ii) Determine the volumetric flow at standard conditions from the common stack using one of the methods specified in paragraph (p)(4)(ii)(A) through (E) of this section.

(A) A temporary meter such as a vane anemometer according the methods set forth in § 98.234(b).

(B) Calibrated bagging according to methods set forth in § 98.234(c).

(C) A high volume sampler according to methods set forth § 98.234(d).

(D) An acoustic leak detection device according to methods set forth in § 98.234(a)(5).

(E) You may choose to use any of the methods set forth in § 98.234(a) to screen for emissions. If emissions are detected using the methods set forth in § 98.234(a), then you must use one of the methods specified in paragraph (p)(4)(ii)(A) through (D) of this section. If emissions are not detected using the methods in § 98.234(a), then you may assume that the volumetric emissions are zero. For the purposes of this paragraph, when using any of the methods in § 98.234(a), emissions are detected whenever a leak is detected according to the method.

(5) *Methods for continuous measurement from manifolded groups of reciprocating compressor sources.* If you elect to conduct continuous volumetric emission measurements for a manifolded group of compressor sources as specified in paragraph (p)(1)(iv) of this section, you must measure volumetric emissions as specified in paragraphs (p)(5)(i) through (iii) of this section.

(i) Measure at a single point in the manifold downstream of all compressor inputs and, if practical, prior to comingling with other non-compressor emission sources.

(ii) Continuously measure the volumetric flow for the manifolded group of compressor sources at standard conditions using a permanent meter according to methods set forth in § 98.234(b).

(iii) If compressor blowdown emissions are included in the metered emissions specified in paragraph (p)(5)(ii) of this section, the compressor blowdown emissions may be included with the reported emissions for the manifolded group of compressor sources and do not

need to be calculated separately using the method specified in paragraph (i) of this section for blowdown vent stacks.

(6) *Method for calculating volumetric GHG emissions from as found measurements for individual reciprocating compressor sources.* For compressor sources measured according to paragraph (p)(1)(i) of this section, you must calculate GHG emissions from the compressor sources as specified in paragraphs (p)(6)(i) through (iv) of this section.

(i) Using Equation W–26 of this section, calculate the annual volumetric GHG emissions for each reciprocating compressor mode-source combination specified in paragraphs (p)(1)(i)(A) through (C) of this section that was measured during the reporting year.

$$E_{s,i,m} = MT_{s,m} * T_m * GHG_{i,m} \quad \text{(Eq. W-26)}$$

Where:

$E_{s,i,m}$ = Annual volumetric GHG_i (either CH_4 or CO_2) emissions for measured compressor mode-source combination m, at standard conditions, in cubic feet.

$MT_{s,m}$ = Volumetric gas emissions for measured compressor mode-source combination m, in standard cubic feet per hour, measured according to paragraph (p)(2) of this section. If multiple measurements are performed for a given mode-source combination m, use the average of all measurements.

T_m = Total time the compressor is in the mode-source combination m, for which $E_{s,i,m}$ is being calculated in the reporting year, in hours.

$GHG_{i,m}$ = Mole fraction of GHG_i in the vent gas for measured compressor mode-source combination m; use the appropriate gas compositions in paragraph (u)(2) of this section.

m = Compressor mode-source combination specified in paragraph (p)(1)(i)(A), (B), or (C) of this section that was measured for the reporting year.

(ii) Using Equation W–27 of this section, calculate the annual volumetric GHG emissions from each reciprocating compressor mode-source combination specified in paragraph (p)(1)(i)(A), (B), and (C) of this section that was not measured during the reporting year.

$$E_{s,i,m} = EF_{s,m} * T_m * GHG_{i,m} \quad \text{(Eq. W-27)}$$

Where:

$E_{s,i,m}$ = Annual volumetric GHG_i (either CH_4 or CO_2) emissions for unmeasured compressor mode-source combination m, at standard conditions, in cubic feet.

$EF_{s,m}$ = Reporter emission factor for compressor mode-source combination m, in standard cubic feet per hour, as calculated in paragraph (p)(6)(iii) of this section.

T_m = Total time the compressor was in the unmeasured mode-source combination m, for which $E_{s,i,m}$ is being calculated in the reporting year, in hours.

$GHG_{i,m}$ = Mole fraction of GHG_i in the vent gas for unmeasured compressor mode-source combination m; use the appropriate gas compositions in paragraph (u)(2) of this section.

m = Compressor mode-source combination specified in paragraph (p)(1)(i)(A), (p)(1)(i)(B), or (p)(1)(i)(C) of this section that was not measured for the reporting year.

(iii) Using Equation W–28 of this section, develop an emission factor for each compressor mode-source combination specified in paragraph (p)(1)(i)(A), (B), and (C) of this section. These emission factors must be calculated annually and used in Equation W–27 of this section to determine volumetric emissions from a reciprocating compressor in the mode-source combinations that were not measured in the reporting year.

$$EF_{s,m} = \frac{\sum_{p=1}^{Count_m} MT_{s,m,p}}{Count_m} \quad \text{(Eq. W-28)}$$

Where:

$EF_{s,m}$ = Reporter emission factor to be used in Equation W–27 of this section for compressor mode-source combination m, in standard cubic feet per hour. The reporter emission factor must be based on all compressors measured in compressor mode-source combination m in the current reporting year and the preceding two reporting years.

$MT_{s,m,p}$ = Average volumetric gas emission measurement for compressor mode-source combination m, for compressor p, in standard cubic feet per hour, calculated using all volumetric gas emission measurements ($MT_{s,m}$ in Equation W–26 of this section) for compressor mode-source combination m for compressor p in the current reporting year and the preceding two reporting years.

$Count_m$ = Total number of compressors measured in compressor mode-source combination m in the current reporting year and the preceding two reporting years.

m = Compressor mode-source combination specified in paragraph (p)(1)(i)(A), (B), or (C) of this section.

(iv) The reporter emission factor in Equation W–28 of this section may be calculated by using all measurements from a single owner or operator instead of only using measurements from a single facility. If you elect to use this option, the reporter emission factor must be applied to all reporting facilities for the owner or operator.

(7) *Method for calculating volumetric GHG emissions from continuous monitoring of individual reciprocating compressor sources.* For compressor sources measured according to paragraph (p)(1)(ii) of this section, you must use the continuous volumetric emission measurements taken as specified in paragraph (p)(3) of this section and calculate annual volumetric GHG emissions associated with the compressor source using Equation W–29A of this section.

$$E_{s,i,v} = Q_{s,v} * GHG_{i,v} \quad \text{(Eq. W-29A)}$$

Where:

$E_{s,i,v}$ = Annual volumetric GHG_i (either CH_4 or CO_2) emissions from compressor source v, at standard conditions, in cubic feet.

$Q_{s,v}$ = Volumetric gas emissions from compressor source v, for reporting year, in standard cubic feet.

$GHG_{i,v}$ = Mole fraction of GHG_i in the vent gas for compressor source v; use the appropriate gas compositions in paragraph (u)(2) of this section.

(8) *Method for calculating volumetric GHG emissions from as found measurements of manifolded groups of reciprocating compressor sources.* For manifolded groups of compressor sources measured according to paragraph (p)(1)(iii) of this section, you must calculate annual GHG emissions using Equation W–29B of this section. If the reciprocating compressors included in the manifolded group of compressor sources share the manifold with centrifugal compressors, you must follow the procedures in either this paragraph (p)(8) or paragraph (o)(8) of this section to calculate emissions from the manifolded group of compressor sources.

$$E_{s,i,g} = T_g * MT_{s,g,avg} * GHG_{i,g} \quad \text{(Eq. W-29B)}$$

Where:

$E_{s,i,g}$ = Annual volumetric GHG_i (either CH_4 or CO_2) emissions for manifolded group of compressor sources g, at standard conditions, in cubic feet.

T_g = Total time the manifolded group of compressor sources g had potential for emissions in the reporting year, in hours. Include all time during which at least one compressor source in the manifolded group of compressor sources g was in a mode-source combination specified in either paragraph (o)(1)(i)(A), (o)(1)(i)(B), (p)(1)(i)(A), (p)(1)(i)(B), or (p)(1)(i)(C) of this section. Default of 8760 hours may be used.

$MT_{s,g,avg}$ = Average volumetric gas emissions of all measurements performed in the reporting year according to paragraph (p)(4) of this section for the manifolded group of compressor sources g, in standard cubic feet per hour.

$GHG_{i,g}$ = Mole fraction of GHG_i in the vent gas for manifolded group of compressor sources g; use the appropriate gas compositions in paragraph (u)(2) of this section.

(9) *Method for calculating volumetric GHG emissions from continuous monitoring of manifolded group of reciprocating compressor sources.* For a manifolded group of compressor sources measured according to paragraph (p)(1)(iv) of this section, you must use the continuous volumetric emission measurements taken as specified in paragraph (p)(5) of this section and calculate annual volumetric GHG emissions associated with each manifolded group of compressor sources using Equation W–29C of this section. If the reciprocating compressors included in the manifolded group of compressor sources share the manifold with centrifugal compressors, you must follow the procedures in either this paragraph (p)(9) or paragraph (o)(9) of this section to calculate emissions from the manifolded group of compressor sources.

$$E_{s,i,g} = Q_{s,g} * GHG_{i,g} \qquad \text{(Eq. W-29C)}$$

Where:

$E_{s,i,g}$ = Annual volumetric GHG_i (either CH_4 or CO_2) emissions from manifolded group of compressor sources g, at standard conditions, in cubic feet.

$Q_{s,g}$ = Volumetric gas emissions from manifolded group of compressor sources g, for reporting year, in standard cubic feet.

$GHG_{i,g}$ = Mole fraction of GHG_i in the vent gas for measured manifolded group of compressor sources g; use the appropriate gas compositions in paragraph (u)(2) of this section.

(10) *Method for calculating volumetric GHG emissions from reciprocating compressor venting at an onshore petroleum and natural gas production facility.* You must calculate emissions from reciprocating compressor venting at an onshore petroleum and natural gas production facility using Equation W–29D of this section.

$$E_{s,i} = Count * EF_{i,s} \qquad \text{(Eq. W-29D)}$$

Where:

$E_{s,i}$ = Annual volumetric GHG_i (either CH_4 or CO_2) emissions from reciprocating compressors, at standard conditions, in cubic feet.

Count = Total number of reciprocating compressors.

$EF_{i,s}$ = Emission factor for GHG_i. Use 9.48×10^3 standard cubic feet per year per compressor for CH_4 and 5.27×10^2 standard cubic feet per year per compressor for CO_2 at 60 °F and 14.7 psia.

(11) *Method for converting from volumetric to mass emissions.* You must calculate both CH_4 and CO_2 mass emissions from volumetric emissions using calculations in paragraph (v) of this section.

(12) *General requirements for calculating volumetric GHG emissions from reciprocating compressors routed to flares.*

You must calculate and report emissions from all reciprocating compressor sources that are routed to a flare as specified in paragraphs (p)(12)(i) through (iii) of this section.

(i) Paragraphs (p)(1) through (11) of this section are not required for compressor sources that are routed to a flare.

(ii) If any compressor sources are routed to a flare, calculate the emissions for the flare stack as specified in paragraph (n) of this section and report emissions from the flare as specified in §98.236(n), without subtracting emissions attributable to compressor sources from the flare.

(iii) Report all applicable activity data for compressors with compressor sources routed to flares as specified in §98.236(p).

(q) *Equipment leak surveys.* You must use the methods described in §98.234(a) to conduct leak detection(s) of equipment leaks from all component types listed in §98.232(d)(7), (e)(7), (f)(5), (g)(3), (h)(4), and (i)(1). This paragraph (q) applies to component types in streams with gas content greater than 10 percent CH_4 plus CO_2 by weight. Component types in streams with gas content less than or equal to 10 percent CH_4 plus CO_2 by weight are exempt from the requirements of this paragraph (q) and do not need to be reported. Tubing systems equal to or less than one half inch diameter are exempt from the requirements of this paragraph (q) and do not need to be reported. For industry segments listed in §98.230(a)(3) through (8), if equipment leaks are detected for component types listed in this paragraph (q), then you must calculate equipment leak emissions per component type per reporting facility using Equation W–30 of this section. For the industry segment listed in §98.230(a)(8), the results from Equation W–30 are used to calculate population emission factors on a meter/regulator run basis using Equation W–31 of this section. If you chose to conduct equipment leak surveys at all above grade transmission-distribution transfer stations over multiple years, ''n,'' according to paragraph (q)(8)(i) of this section, then you must calculate the emissions from all above grade transmission-distribution transfer stations as specified in paragraph (q)(9) of this section.

$$E_{s,p,i} = GHG_i * EF_{s,p} * \sum_{z=1}^{x_p} T_{p,z} \qquad \text{(Eq. W-30)}$$

Where:

$E_{s,p,i}$ = Annual total volumetric emissions of GHG_i from specific component type ''p'' (listed in §98.232(d)(7), (e)(7), (f)(5), (g)(3), (h)(4), and (i)(1)) in standard (''s'') cubic feet, as specified in paragraphs (q)(1) through (q)(8) of this section.

x_p = Total number of specific component type ''p'' detected as leaking during annual leak surveys.

$EF_{s,p}$ = Leaker emission factor for specific component types listed in Table W–2 through Table W–7 of this subpart.

GHG_i = For onshore natural gas processing facilities, concentration of GHG_i, CH_4 or CO_2, in the total hydrocarbon of the feed natural gas; for onshore natural gas transmission compression and underground natural gas storage, GHG_i equals 0.975 for CH_4 and 1.1×10^{-2} for CO_2 ; for LNG storage and LNG import and export equipment, GHG_i equals 1 for CH_4 and 0 for CO_2 ; and for natural gas distribution, GHG_i equals 1 for CH_4 and 1.1×10^{-2} CO_2.

$T_{p,z}$ = The total time the surveyed component ''z'', component type ''p'', was assumed to be leaking and operational, in hours. If one leak detection survey is conducted in the calendar year, assume the component was leaking for the entire calendar year, accounting for time the component was not operational (*i.e.*, not operating under pressure) using engineering estimate based on best available data. If multiple leak detection surveys are conducted in the calendar year, assume that the component found to be leaking has been leaking since the previous survey (if not found leaking in the previous survey) or the beginning of the calendar year (if it was found leaking in the previous survey), accounting for time the component was not operational using engineering estimate based on best available data. For the last leak detection survey in the calendar year, assume that

all leaking components continue to leak until the end of the calendar year, accounting for time the component was not operational using engineering estimate based on best available data.

(1) You must conduct either one leak detection survey in a calendar year or multiple complete leak detection surveys in a calendar year. The leak detection surveys selected must be conducted during the calendar year.

(2) Calculate both CO_2 and CH_4 mass emissions using calculations in paragraph (v) of this section.

(3) Onshore natural gas processing facilities must use the appropriate default total hydrocarbon leaker emission factors for compressor components in gas service and non-compressor components in gas service listed in Table W–2 of this subpart.

(4) Onshore natural gas transmission compression facilities must use the appropriate default total hydrocarbon leaker emission factors for compressor components in gas service and non-compressor components in gas service listed in Table W–3 of this subpart.

(5) Underground natural gas storage facilities must use the appropriate default total hydrocarbon leaker emission factors for storage stations in gas service listed in Table W–4 of this subpart.

(6) LNG storage facilities must use the appropriate default methane leaker emission factors for LNG storage components in gas service listed in Table W–5 of this subpart.

(7) LNG import and export facilities must use the appropriate default methane leaker emission factors for LNG terminals components in LNG service listed in Table W–6 of this subpart.

(8) Natural gas distribution facilities must use Equation W–30 of this section and the default methane leaker emission factors for transmission-distribution transfer station components in gas service listed in Table W–7 of this subpart to calculate component emissions from annual equipment leak surveys conducted at above grade transmission-distribution transfer stations. Natural gas distribution facilities are required to perform equipment leak surveys only at above grade stations that qualify as transmission-distribution transfer stations. Below grade transmission-distribution transfer stations and all metering-regulating stations that do not meet the definition of transmission-distribution transfer stations are not required to perform equipment leak surveys under this section.

(i) Natural gas distribution facilities may choose to conduct equipment leak surveys at all above grade transmission-distribution transfer stations over multiple years ''n'', not exceeding a five year period to cover all above grade transmission-distribution transfer stations. If the facility chooses to use the multiple year option, then the number of transmission-distribution transfer stations that are monitored in each year should be approximately equal across all years in the cycle.

(ii) Use Equation W–31 of this section to determine the meter/regulator run population emission factors for each GHG_i. As additional survey data become available, you must recalculate the meter/regulator run population emission factors for each GHG_i annually according to paragraph (q)(8)(iii) of this section.

$$EF_{s,MR,i} = \frac{\sum_{y=1}^{n}\sum_{p=1}^{7} E_{s,p,i,y}}{\sum_{y=1}^{n}\sum_{w=1}^{Count_{MR,y}} T_{w,y}} \qquad \text{(Eq. W-31)}$$

Where:

$EF_{s,MR,i}$ = Meter/regulator run population emission factor for GHG_i based on all surveyed above grade transmission-distribution transfer stations over ''n'' years, in standard cubic feet of GHG_i per

operational hour of all meter/regulator runs.

$E_{s,p,i,y}$ = Annual total volumetric emissions at standard conditions of GHG_i from component type ''p'' during year ''y'' in standard (''s'') cubic feet, as calculated using Equation W–30 of this section.

p = Seven component types listed in Table W–7 of this subpart for transmission-distribution transfer stations.

$T_{w,y}$ = The total time the surveyed meter/regulator run ''w'' was operational, in hours during survey year ''y'' using engineering estimate based on best available data.

$Count_{MR,y}$ = Count of meter/regulator runs surveyed at above grade transmission-distribution transfer stations in year ''y''.

y = Year of data included in emission factor ''$EF_{s,MR,i}$'' according to paragraph (q)(8)(iii) of this section.

n = Number of years of data, according to paragraph (q)(8)(i) of this section, whose results are used to calculate emission factor ''$EF_{s,MR,i}$'' according to paragraph (q)(8)(iii) of this section.

(iii) The emission factor ''$EF_{s,MR,i}$'', based on annual equipment leak surveys at above grade transmission-distribution transfer stations, must be calculated annually. If you chose to conduct equipment leak surveys at all above grade transmission-distribution transfer stations over multiple years, ''n,'' according to paragraph (q)(8)(i) of this section and you have submitted a smaller number of annual reports than the duration of the selected cycle period of 5 years or less, then all available data from the current year and previous years must be used in the calculation of the emission factor ''$EF_{s,MR,i}$'' from Equation W–31 of this section. After the first survey cycle of ''n'' years is completed and beginning in calendar year (n+1), the survey will continue on a rolling basis by including the survey results from the current calendar year ''y'' and survey results from all previous (n–1) calendar years, such that each annual calculation of the emission factor ''$EF_{s,MR,i}$'' from Equation W–31 of this section is based on survey results from ''n'' years. Upon completion of a cycle, you may elect to change the number of years in the next cycle period (to be 5 years or less). If the number of years in the new cycle is greater than the number of years in the previous cycle, calculate ''$EF_{s,MR,i}$'' from Equation W–31 of this section in each year of the new cycle using the survey results from the current calendar year and the survey results from the preceding number years that is equal to the number of years in the previous cycle period. If the number of years, ''n_{new}'', in the new cycle is smaller than the number of years in the previous cycle, ''n'', calculate ''$EF_{s,MR,i}$'' from Equation W–31 of this section in each year of the new cycle using the survey results from the current calendar year and survey results from all previous ($n_{new}-1$) calendar years.

(9) If you chose to conduct equipment leak surveys at all above grade transmission-distribution transfer stations over multiple years, ''n,'' according to paragraph (q)(8)(i) of this section, you must use the meter/regulator run population emission factors calculated using Equation W–31 of this section and the total count of all meter/regulator runs at above grade transmission-distribution transfer stations to calculate emissions from all above grade transmission-distribution transfer stations using Equation W–32B in paragraph (r) of this section.

(r) *Equipment leaks by population count.* This paragraph applies to emissions sources listed in § 98.232 (c)(21), (f)(5), (g)(3), (h)(4), (i)(2), (i)(3), (i)(4), (i)(5), and (i)(6) on streams with gas content greater than 10 percent CH_4 plus CO_2 by weight. Emissions sources in streams with gas content less than or equal to 10 percent CH_4 plus CO_2 by weight are exempt from the requirements of this paragraph (r) and do not need to be reported. Tubing systems equal to or less than one half inch diameter are exempt from the requirements of paragraph (r) of this section and do not need to be reported. You must calculate emissions from all emission sources listed in this paragraph using Equation W–32A of this section, except for natural gas distribution facility emission sources listed in § 98.232(i)(3). Natural gas distribution facility emission sources listed in § 98.232(i)(3) must calculate emissions using Equation W–32B and according to paragraph (r)(6)(ii) of this section.

$$E_{s,e,i} = Count_e * EF_{s,e} * GHG_i * T_e \quad \text{(Eq. W-32A)}$$

$$E_{s,MR,i} = Count_{MR} * EF_{s,MR,i} * T_{w,avg} \quad \text{(Eq. W-32B)}$$

Where:

$E_{s,e,i}$ = Annual volumetric emissions of GHG_i from the emission source type in standard cubic feet. The emission source type may be a component (*e.g.* connector, open-ended line, etc.), below grade metering-regulating station, below grade transmission-distribution transfer station, distribution main, or distribution service.

$E_{s,MR,i}$ = Annual volumetric emissions of GHG_i from all meter/regulator runs at above grade metering regulating stations that are not above grade transmission-distribution transfer stations or, when used to calculate emissions according to paragraph (q)(9) of this section, the annual volumetric emissions of GHG_i from all meter/regulator runs at above grade transmission-distribution transfer stations, in standard cubic feet.

$Count_e$ = Total number of the emission source type at the facility. For onshore petroleum and natural gas production facilities, average component counts are provided by major equipment piece in Tables W–1B and Table W–1C of this subpart. Use average component counts as appropriate for operations in Eastern and Western U.S., according to Table W–1D of this subpart. Underground natural gas storage facilities must count each component listed in Table W–4 of this subpart. LNG storage facilities must count the number of vapor recovery compressors. LNG import and export facilities must count the number of vapor recovery compressors. Natural gas distribution facilities must count: (1) The number of distribution services by material type; (2) miles of distribution mains by material type; and (3) number of below grade metering-regulating stations, by pressure type; as listed in Table W–7 of this subpart.

$Count_{MR}$ = Total number of meter/regulator runs at above grade metering-regulating stations that are not above grade transmission-distribution transfer stations or, when used to calculate emissions according to paragraph (q)(9) of this section, the total number of meter/regulator runs at above grade transmission-distribution transfer stations.

$EF_{s,e}$ = Population emission factor for the specific emission source type, as listed in Tables W–1A and W–4 through W–7 of this subpart. Use appropriate population emission factor for operations in Eastern and Western U.S., according to Table W–1D of this subpart.

$EF_{s,MR,i}$ = Meter/regulator run population emission factor for GHG_i based on all surveyed above grade transmission-distribution transfer stations over ''n'' years, in standard cubic feet of GHG_i per operational hour of all meter/regulator runs, as determined in Equation W–31.

GHG_i = For onshore petroleum and natural gas production facilities, concentration of GHG_i, CH_4, or CO_2, in produced natural gas as defined in paragraph (u)(2) of this section; for onshore natural gas transmission compression and underground natural gas storage, GHG_i equals 0.975 for CH_4 and 1.1×10^{-2} for CO_2; for LNG storage and LNG import and export equipment, GHG_i equals 1 for CH_4 and 0 for CO_2; and for natural gas distribution, GHG_i equals 1 for CH_4 and $1.1 \times 10^{-2} CO_2$.

T_e = Average estimated time that each emission source type associated with the equipment leak emission was operational in the calendar year, in hours, using engineering estimate based on best available data.

$T_{w,avg}$ = Average estimated time that each meter/regulator run was operational in the calendar year, in hours per meter/regulator run, using engineering estimate based on best available data.

(1) Calculate both CH_4 and CO_2 mass emissions from volumetric emissions using calculations in paragraph (v) of this section.

(2) Onshore petroleum and natural gas production facilities must use the appropriate default whole gas population emission factors listed in Table W–1A of this subpart. Major equipment and components associated with gas wells are considered gas service components in reference to Table W–1A of this subpart and major natural gas equipment in reference to Table W–1B of this subpart. Major equipment and components associated with crude oil wells are considered crude service components in reference to Table W–1A of this subpart and major crude oil equipment in reference to Table W–1C of this subpart. Where facilities conduct EOR operations the emissions factor listed

in Table W–1A of this subpart shall be used to estimate all streams of gases, including recycle CO_2 stream. The component count can be determined using either of the calculation methods described in this paragraph (r)(2). The same calculation method must be used for the entire calendar year.

(i) *Component Count Method 1.* For all onshore petroleum and natural gas production operations in the facility perform the following activities:

(A) Count all major equipment listed in Table W–1B and Table W–1C of this subpart. For meters/piping, use one meters/piping per well-pad.

(B) Multiply major equipment counts by the average component counts listed in Table W–1B and W–1C of this subpart for onshore natural gas production and onshore oil production, respectively. Use the appropriate factor in Table W–1A of this subpart for operations in Eastern and Western U.S. according to the mapping in Table W–1D of this subpart.

(ii) *Component Count Method 2.* Count each component individually for the facility. Use the appropriate factor in Table W–1A of this subpart for operations in Eastern and Western U.S. according to the mapping in Table W–1D of this subpart.

(3) Underground natural gas storage facilities must use the appropriate default total hydrocarbon population emission factors for storage wellheads in gas service listed in Table W–4 of this subpart.

(4) LNG storage facilities must use the appropriate default methane population emission factor for LNG storage compressors in gas service listed in Table W–5 of this subpart.

(5) LNG import and export facilities must use the appropriate default methane population emission factor for LNG terminal compressors in gas service listed in Table W–6 of this subpart.

(6) Natural gas distribution facilities must use the appropriate methane emission factors as described in paragraphs (r)(6)(i) and (ii) of this section.

(i) Below grade metering-regulating stations, distribution mains, and distribution services must use the appropriate default methane population emission factors listed in Table W–7 of this subpart. Below grade transmission-distribution transfer stations must use the emission factor for below grade metering-regulating stations.

(ii) Above grade metering-regulating stations that are not above grade transmission-distribution transfer stations must use the meter/regulator run population emission factor calculated in Equation W–31. Natural gas distribution facilities that do not have above grade transmission-distribution transfer stations are not required to calculate emissions for above grade metering-regulating stations and are not required to report GHG emissions in § 98.236(r)(2)(v).

(s) *Offshore petroleum and natural gas production facilities.* Report CO_2, CH_4, and N_2O emissions for offshore petroleum and natural gas production from all equipment leaks, vented emission, and flare emission source types as identified in the data collection and emissions estimation study conducted by BOEMRE in compliance with 30 CFR 250.302 through 304.

(1) Offshore production facilities under BOEMRE jurisdiction shall report the same annual emissions as calculated and reported by BOEMRE in data collection and emissions estimation study published by BOEMRE referenced in 30 CFR 250.302 through 304 (GOADS).

(i) For any calendar year that does not overlap with the most recent BOEMRE emissions study publication year, report the most recent BOEMRE reported emissions data published by BOEMRE referenced in 30 CFR 250.302 through 304 (GOADS). Adjust emissions based on the operating time for the facility relative to the operating time in the most recent BOEMRE published study.

(ii) [Reserved]

(2) Offshore production facilities that are not under BOEMRE jurisdiction must use the most recent monitoring methods and calculation methods published by BOEMRE referenced in 30 CFR 250.302 through 250.304 to calculate and report annual emissions (GOADS).

(i) For any calendar year that does not overlap with the most recent BOEMRE emissions study publication, you may report the most recently reported emissions data submitted to

demonstrate compliance with this subpart of part 98, with emissions adjusted based on the operating time for the facility relative to operating time in the previous reporting period.

(ii) [Reserved]

(3) If BOEMRE discontinues or delays their data collection effort by more than 4 years, then offshore reporters shall once in every 4 years use the most recent BOEMRE data collection and emissions estimation methods to estimate emissions. These emission estimates would be used to report emissions from the facility sources as required in paragraph (s)(1)(i) of this section.

(4) For either first or subsequent year reporting, offshore facilities either within or outside of BOEMRE jurisdiction that were not covered in the previous BOEMRE data collection cycle must use the most recent BOEMRE data collection and emissions estimation methods published by BOEMRE referenced in 30 CFR 250.302 through 250.304 to calculate and report emissions.

(t) *GHG volumetric emissions using actual conditions.* If equation parameters in § 98.233 are already determined at standard conditions as provided in the introductory text in § 98.233, which results in volumetric emissions at standard conditions, then this paragraph does not apply. Calculate volumetric emissions at standard conditions as specified in paragraphs (t)(1) or (2) of this section, with actual pressure and temperature determined by engineering estimates based on best available data unless otherwise specified.

(1) Calculate natural gas volumetric emissions at standard conditions using actual natural gas emission temperature and pressure, and Equation W–33 of this section for conversions of $E_{a,n}$ or conversions of FR_a (whether sub-sonic or sonic).

$$E_{s,n} = \frac{E_{a,n} * (459.67 + T_s) * P_a}{(459.67 + T_a) * P_s * Z_a} \qquad \text{(Eq. W-33)}$$

Where:

$E_{s,n}$ = Natural gas volumetric emissions at standard temperature and pressure (STP) conditions in cubic feet, except $E_{s,n}$ equals $FR_{s,p}$ for each well p when calculating either subsonic or sonic flowrates under § 98.233(g).

$E_{a,n}$ = Natural gas volumetric emissions at actual conditions in cubic feet, except $E_{a,n}$ equals $FR_{a,p}$ for each well p when calculating either subsonic or sonic flowrates under § 98.233(g).

T_s = Temperature at standard conditions (60 °F).

T_a = Temperature at actual emission conditions (°F).

P_s = Absolute pressure at standard conditions (14.7 psia).

P_a = Absolute pressure at actual conditions (psia).

Z_a = Compressibility factor at actual conditions for natural gas. You may use either a default compressibility factor of 1, or a site-specific compressibility factor based on actual temperature and pressure conditions.

(2) Calculate GHG volumetric emissions at standard conditions using actual GHG emissions temperature and pressure, and Equation W–34 of this section.

$$E_{s,i} = \frac{E_{a,i} * (459.67 + T_s) * P_a}{(459.67 + T_a) * P_s * Z_a} \qquad \text{(Eq. W-34)}$$

Where:

$E_{s,i}$ = GHG i volumetric emissions at standard temperature and pressure (STP) conditions in cubic feet.

$E_{a,i}$ = GHG i volumetric emissions at actual conditions in cubic feet.

T_s = Temperature at standard conditions (60 °F).

T_a = Temperature at actual emission conditions (°F).
P_s = Absolute pressure at standard conditions (14.7 psia).
P_a = Absolute pressure at actual conditions (psia).
Z_a = Compressibility factor at actual conditions for GHG i.

You may use either a default compressibility factor of 1, or a site-specific compressibility factor based on actual temperature and pressure conditions.

(3) Reporters using 68 °F for standard temperature may use the ratio 519.67/527.67 to convert volumetric emissions from 68 °F to 60 °F.

(u) *GHG volumetric emissions at standard conditions.* Calculate GHG volumetric emissions at standard conditions as specified in paragraphs (u)(1) and (2) of this section.

(1) Estimate CH_4 and CO_2 emissions from natural gas emissions using Equation W–35 of this section.

$$E_{s,i} = E_{s,n} * M_i \quad \text{(Eq. W-35)}$$

where:

$E_{s,i}$ = GHG i (either CH_4 or CO_2) volumetric emissions at standard conditions in cubic feet.
$E_{s,n}$ = Natural gas volumetric emissions at standard conditions in cubic feet.
M_i = Mole fraction of GHG i in the natural gas.

(2) For Equation W–35 of this section, the mole fraction, M_i, shall be the annual average mole fraction for each sub-basin category or facility, as specified in paragraphs (u)(2)(i) through (vii) of this section.

(i) GHG mole fraction in produced natural gas for onshore petroleum and natural gas production facilities. If you have a continuous gas composition analyzer for produced natural gas, you must use an annual average of these values for determining the mole fraction. If you do not have a continuous gas composition analyzer, then you must use an annual average gas composition based on your most recent available analysis of the sub-basin category or facility, as applicable to the emission source.

(ii) GHG mole fraction in feed natural gas for all emissions sources upstream of the de-methanizer or dew point control and GHG mole fraction in facility specific residue gas to transmission pipeline systems for all emissions sources downstream of the demethanizer overhead or dew point control for onshore natural gas processing facilities. For onshore natural gas processing plants that solely fractionate a liquid stream, use the GHG mole percent in feed natural gas liquid for all streams. If you have a continuous gas composition analyzer on feed natural gas, you must use these values for determining the mole fraction. If you do not have a continuous gas composition analyzer, then annual samples must be taken according to methods set forth in § 98.234(b).

(iii) *GHG mole fraction in transmission pipeline natural gas that passes through the facility for the onshore natural gas transmission compression industry segment.* You may use either a default 95 percent methane and 1 percent carbon dioxide fraction for GHG mole fraction in natural gas or site specific engineering estimates based on best available data.

(iv) *GHG mole fraction in natural gas stored in the underground natural gas storage industry segment.* You may use either a default 95 percent methane and 1 percent carbon dioxide fraction for GHG mole fraction in natural gas or site specific engineering estimates based on best available data.

(v) *GHG mole fraction in natural gas stored in the LNG storage industry segment.* You may use either a default 95 percent methane and 1 percent carbon dioxide fraction for GHG mole fraction in natural gas or site specific engineering estimates based on best available data.

(vi) *GHG mole fraction in natural gas stored in the LNG import and export industry segment.* For export facilities that receive gas from transmission pipelines, you may use either a default

95 percent methane and 1 percent carbon dioxide fraction for GHG mole fraction in natural gas or site specific engineering estimates based on best available data.

(vii) *GHG mole fraction in local distribution pipeline natural gas that passes through the facility for natural gas distribution facilities*. You may use either a default 95 percent methane and 1 percent carbon dioxide fraction for GHG mole fraction in natural gas or site specific engineering estimates based on best available data.

(v) *GHG mass emissions*. Calculate GHG mass emissions in metric tons by converting the GHG volumetric emissions at standard conditions into mass emissions using Equation W–36 of this section.

$$Mass_i = E_{s,i} * \rho_i * 10^{-3} \qquad \text{(Eq. W-36)}$$

Where:

$Mass_i$ = GHG_i (either CH_4, CO_2, or N_2O) mass emissions in metric tons.

$E_{s,i}$ = GHG_i (either CH_4, CO_2, or N_2O) volumetric emissions at standard conditions, in cubic feet.

ρ_i = Density of GHG_i. Use 0.0526 kg/ft^3 for CO_2 and N_2O, and 0.0192 kg/ft^3 for CH_4 at 60 °F and 14.7 psia.

(w) *EOR injection pump blowdown*. Calculate CO_2 pump blowdown emissions from each EOR injection pump system as follows:

(1) Calculate the total injection pump system volume in cubic feet (including pipelines, manifolds and vessels) between isolation valves.

(2) Retain logs of the number of blowdowns per calendar year.

(3) Calculate the total annual CO_2 emissions from each EOR injection pump system using Equation W–37 of this section:

$$Mass_{CO2} = N * V_v * R_c * GHG_{CO2} * 10^{-3} \qquad \text{(Eq. W-37)}$$

Where:

$Mass_{CO2}$ = Annual EOR injection pump system emissions in metric tons from blowdowns.

N = Number of blowdowns for the EOR injection pump system in the calendar year.

V_v = Total volume in cubic feet of EOR injection pump system chambers (including pipelines, manifolds and vessels) between isolation valves.

R_c = Density of critical phase EOR injection gas in kg/ft^3. You may use an appropriate standard method published by a consensus-based standards organization if such a method exists or you may use an industry standard practice to determine density of super critical EOR injection gas.

GHG_{CO2} = Mass fraction of CO_2 in critical phase injection gas.

1×10^{-3} = Conversion factor from kilograms to metric tons.

(x) *EOR hydrocarbon liquids dissolved CO_2*. Calculate CO_2 emissions downstream of the storage tank from dissolved CO_2 in hydrocarbon liquids produced through EOR operations as follows:

(1) Determine the amount of CO_2 retained in hydrocarbon liquids after flashing in tankage at STP conditions. Annual samples of hydrocarbon liquids downstream of the storage tank must be taken according to methods set forth in §98.234(b) to determine retention of CO_2 in hydrocarbon liquids immediately downstream of the storage tank. Use the annual analysis for the calendar year.

(2) Estimate emissions using Equation W–38 of this section.

$$Mass_{CO2} = S_{hl} * V_{hl} \qquad \text{(Eq. W-38)}$$

Where:

$Mass_{CO2}$ = Annual CO_2 emissions from CO_2 retained in hydrocarbon liquids produced through EOR operations beyond tankage, in metric tons.

S_{hl} = Amount of CO_2 retained in hydrocarbon liquids downstream of the storage tank, in metric tons per barrel, under standard conditions.

V_{hl} = Total volume of hydrocarbon liquids produced at the EOR operations in barrels in the calendar year.

(y) [Reserved]

(z) *Onshore petroleum and natural gas production and natural gas distribution combustion emissions.* Calculate CO_2, CH_4, and N_2O combustion-related emissions from stationary or portable equipment, except as specified in paragraph (z)(3) and (z)(4) of this section, as follows:

(1) If a fuel combusted in the stationary or portable equipment is listed in Table C–1 of subpart C of this part, or is a blend containing one or more fuels listed in Table C–1, calculate emissions according to paragraph (z)(1)(i) of this section. If the fuel combusted is natural gas and is of pipeline quality specification and has a minimum high heat value of 950 Btu per standard cubic foot, use the calculation method described in paragraph (z)(1)(i) of this section and you may use the emission factor provided for natural gas as listed in Table C–1. If the fuel is natural gas, and is not pipeline quality or has a high heat value of less than 950 Btu per standard cubic feet, calculate emissions according to paragraph (z)(2) of this section. If the fuel is field gas, process vent gas, or a blend containing field gas or process vent gas, calculate emissions according to paragraph (z)(2) of this section.

(i) For fuels listed in Table C–1 or a blend containing one or more fuels listed in Table C–1, calculate CO_2, CH_4, and N_2O emissions according to any Tier listed in subpart C of this part. You must follow all applicable calculation requirements for that tier listed in §98.33, any monitoring or QA/QC requirements listed for that tier in §98.34, any missing data procedures specified in §98.35, and any recordkeeping requirements specified in §98.37.

(ii) Emissions from fuel combusted in stationary or portable equipment at onshore natural gas and petroleum production facilities and at natural gas distribution facilities will be reported according to the requirements specified in §98.236(z) and not according to the reporting requirements specified in subpart C of this part.

(2) For fuel combustion units that combust field gas, process vent gas, a blend containing field gas or process vent gas, or natural gas that is not of pipeline quality or that has a high heat value of less than 950 Btu per standard cubic feet, calculate combustion emissions as follows:

(i) You may use company records to determine the volume of fuel combusted in the unit during the reporting year.

(ii) If you have a continuous gas composition analyzer on fuel to the combustion unit, you must use these compositions for determining the concentration of gas hydrocarbon constituent in the flow of gas to the unit. If you do not have a continuous gas composition analyzer on gas to the combustion unit, you must use the appropriate gas compositions for each stream of hydrocarbons going to the combustion unit as specified in the applicable paragraph in (u)(2) of this section.

(iii) Calculate GHG volumetric emissions at actual conditions using Equations W–39A and W–39B of this section:

$$E_{a,CO2} = (V_a * Y_{CO2}) + \eta * \sum_{j=1}^{5} V_a * Y_j * R_j \qquad \text{(Eq. W-39A)}$$

$$E_{a,CH4} = V_a * (1-\eta) * Y_{CH4} \qquad \text{(Eq. W-39B)}$$

Where:

$E_{a,CO2}$ = Contribution of annual CO_2 emissions from portable or stationary fuel combustion sources in cubic feet, under actual conditions.

V_a = Volume of gas sent to combustion unit in actual cubic feet, during the year.

Y_{CO2} = Mole fraction of CO_2 constituent in gas sent to combustion unit.

$E_{a,CH4}$ = Contribution of annual CH_4 emissions from portable or stationary fuel combustion sources in cubic feet, under actual conditions.

η = Fraction of gas combusted for portable and stationary equipment determined using engineering estimation. For internal combustion devices, a default of 0.995 can be used.

Y_j = Mole fraction of gas hydrocarbon constituents j (such as methane, ethane, propane, butane, and pentanes plus) in gas sent to combustion unit.

R_j = Number of carbon atoms in the gas hydrocarbon constituent j; 1 for methane, 2 for ethane, 3 for propane, 4 for butane, and 5 for pentanes plus, in gas sent to combustion unit.

Y_{CH4} = Mole fraction of methane constituent in gas sent to combustion unit.

(iv) Calculate GHG volumetric emissions at standard conditions using calculations in paragraph (t) of this section.

(v) Calculate both combustion-related CH_4 and CO_2 mass emissions from volumetric CH_4 and CO_2 emissions using calculation in paragraph (v) of this section.

(vi) Calculate N_2O mass emissions using Equation W–40 of this section.

$$Mass_{N2O} = \left(1 \times 10^{-3}\right) \times Fuel \times HHV \times EF \qquad \text{(Eq. W-40)}$$

Where:

$Mass_{N2O}$ = Annual N_2O emissions from the combustion of a particular type of fuel (metric tons).

Fuel = Annual mass or volume of the fuel combusted (mass or volume per year, choose appropriately to be consistent with the units of HHV).

HHV = Higher heating value of fuel, mmBtu/unit of fuel (in units consistent with the fuel quantity combusted). For field gas or process vent gas, you may use either a default higher heating value of 1.235×10^{-3} mmBtu/scf or a site-specific higher heating value. For natural gas that is not of pipeline quality or that has a high heat value less than 950 Btu per standard cubic foot, use a site-specific higher heating value.

EF = Use 1.0×10^{-4} kg N_2O/mmBtu.

1×10^{-3} = Conversion factor from kilograms to metric tons.

(3) External fuel combustion sources with a rated heat capacity equal to or less than 5 mmBtu/hr do not need to report combustion emissions or include these emissions for threshold determination in § 98.231(a). You must report the type and number of each external fuel combustion unit.

(4) Internal fuel combustion sources, not compressor-drivers, with a rated heat capacity equal to or less than 1 mmBtu/hr (or the equivalent of 130 horsepower), do not need to report combustion emissions or include these emissions for threshold determination in § 98.231(a). You must report the type and number of each internal fuel combustion unit.

[75 FR 74488, Nov. 30, 2010, as amended at 76 FR 80575, Dec. 23, 2011; 77 FR 51490, Aug. 24, 2012; 78 FR 71960, Nov. 29, 2013; 79 FR 70408, Nov. 25, 2014]

§ 98.234 Monitoring and QA/QC requirements.

The GHG emissions data for petroleum and natural gas emissions sources must be quality assured as applicable as specified in this section. Offshore petroleum and natural gas production facilities shall adhere to the monitoring and QA/QC requirements as set forth in 30 CFR 250.

(a) You must use any of the methods described as follows in this paragraph to conduct leak detection(s) of equipment leaks and through-valve leakage from all source types listed in § 98.233(k), (o), (p) and (q) that occur during a calendar year.

(1) *Optical gas imaging instrument*. Use an optical gas imaging instrument for equipment leak detection in accordance with 40 CFR part 60, subpart A, § 60.18 of the *Alternative work practice for monitoring equipment leaks*, § 60.18(i)(1)(i); § 60.18(i)(2)(i) except that

the monitoring frequency shall be annual using the detection sensitivity level of 60 grams per hour as stated in 40 CFR Part 60, subpart A, Table 1: *Detection Sensitivity Levels;* § 60.18(i)(2)(ii) and (iii) except the gas chosen shall be methane, and § 60.18(i)(2)(iv) and (v); § 60.18(i)(3); § 60.18(i)(4)(i) and (v); including the requirements for daily instrument checks and distances, and excluding requirements for video records. Any emissions detected by the optical gas imaging instrument is a leak unless screened with Method 21 (40 CFR part 60, appendix A–7) monitoring, in which case 10,000 ppm or greater is designated a leak. In addition, you must operate the optical gas imaging instrument to image the source types required by this subpart in accordance with the instrument manufacturer's operating parameters. Unless using methods in paragraph (a)(2) of this section, an optical gas imaging instrument must be used for all source types that are inaccessible and cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) *Method 21*. Use the equipment leak detection methods in 40 CFR part 60, appendix A–7, Method 21. If using Method 21 monitoring, if an instrument reading of 10,000 ppm or greater is measured, a leak is detected. Inaccessible emissions sources, as defined in 40 CFR part 60, are not exempt from this subpart. Owners or operators must use alternative leak detection devices as described in paragraph (a)(1) or (a)(2) of this section to monitor inaccessible equipment leaks or vented emissions.

(3) *Infrared laser beam illuminated instrument*. Use an infrared laser beam illuminated instrument for equipment leak detection. Any emissions detected by the infrared laser beam illuminated instrument is a leak unless screened with Method 21 monitoring, in which case 10,000 ppm or greater is designated a leak. In addition, you must operate the infrared laser beam illuminated instrument to detect the source types required by this subpart in accordance with the instrument manufacturer's operating parameters.

(4) [Reserved]

(5) *Acoustic leak detection device*. Use the acoustic leak detection device to detect through-valve leakage. When using the acoustic leak detection device to quantify the through-valve leakage, you must use the instrument manufacturer's calculation methods to quantify the through-valve leak. When using the acoustic leak detection device, if a leak of 3.1 scf per hour or greater is calculated, a leak is detected. In addition, you must operate the acoustic leak detection device to monitor the source valves required by this subpart in accordance with the instrument manufacturer's operating parameters. Acoustic stethoscope type devices designed to detect through valve leakage when put in contact with the valve body and that provide an audible leak signal but do not calculate a leak rate can be used to identify non-leakers with subsequent measurement required to calculate the rate if through-valve leakage is identified. Leaks are reported if a leak rate of 3.1 scf per hour or greater is measured.

(b) You must operate and calibrate all flow meters, composition analyzers and pressure gauges used to measure quantities reported in § 98.233 according to the procedures in § 98.3(i) and the procedures in paragraph (b) of this section. You may use an appropriate standard method published by a consensus-based standards organization if such a method exists or you may use an industry standard practice. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB).

(c) Use calibrated bags (also known as vent bags) only where the emissions are at near-atmospheric pressures and below the maximum temperature specified by the vent bag manufacturer such that the bag is safe to handle. The bag opening must be of sufficient size that the entire emission can be tightly encompassed for measurement till the bag is completely filled.

(1) Hold the bag in place enclosing the emissions source to capture the entire emissions and record the time required for completely filling the bag. If the bag inflates in less than one second, assume one second inflation time.

(2) Perform three measurements of the time required to fill the bag, report the emissions as the average of the three readings.

(3) Estimate natural gas volumetric emissions at standard conditions using calculations in § 98.233(t).

(4) Estimate CH_4 and CO_2 volumetric and mass emissions from volumetric natural gas emissions using the calculations in § 98.233(u) and (v).

(d) Use a high volume sampler to measure emissions within the capacity of the instrument.

(1) A technician following manufacturer instructions shall conduct measurements, including equipment manufacturer operating procedures and measurement methods relevant to using a high volume sampler, including positioning the instrument for complete capture of the equipment leak without creating backpressure on the source.

(2) If the high volume sampler, along with all attachments available from the manufacturer, is not able to capture all the emissions from the source then use anti-static wraps or other aids to capture all emissions without violating operating requirements as provided in the instrument manufacturer's manual.

(3) Estimate natural gas volumetric emissions at standard conditions using calculations in § 98.233(t). Estimate CH_4 and CO_2 volumetric and mass emissions from volumetric natural gas emissions using the calculations in § 98.233(u) and (v).

(4) Calibrate the instrument at 2.5 percent methane with 97.5 percent air and 100 percent CH_4 by using calibrated gas samples and by following manufacturer's instructions for calibration.

(e) Peng Robinson Equation of State means the equation of state defined by Equation W–41 of this section:

$$p = \frac{RT}{V_m - b} - \frac{a\alpha}{V_m^2 + 2bV_m - b^2} \qquad \text{(Eq. W-41)}$$

Where:

p = Absolute pressure.

R = Universal gas constant.

T = Absolute temperature.

V_m = Molar volume.

$$a = \frac{0.45724 R^2 T_c^2}{p_c}$$

$$b = \frac{0.7780 RT_c}{p_c}$$

$$\alpha = \left(1 + \left(0.37464 + 1.54226\omega - 0.26992\omega^2\right)\left(1 - \sqrt{\frac{T}{T_c}}\right)\right)^2$$

Where:

ω = Acentric factor of the species.

T_c = Critical temperature.
P_c = Critical pressure.

(f) *Special reporting provisions for best available monitoring methods in reporting year 2015*—(1) *Best available monitoring methods.* From January 1, 2015 to March 31, 2015, for a facility subject to this subpart, you must use the calculation methodologies and equations in § 98.233 ''Calculating GHG Emissions'', but you may use the best available monitoring method for any parameter for which it is not reasonably feasible to acquire, install, and operate a required piece of monitoring equipment by January 1, 2015 as specified in paragraphs (f)(2) and (3) of this section. Starting no later than April 1, 2015, you must discontinue using best available methods and begin following all applicable monitoring and QA/QC requirements of this part, except as provided in paragraph (f)(4) of this section. Best available monitoring methods means any of the following methods:

(i) Monitoring methods currently used by the facility that do not meet the specifications of this subpart.

(ii) Supplier data.

(iii) Engineering calculations.

(iv) Other company records.

(2) *Best available monitoring methods for well-related measurement data.* You may use best available monitoring methods for well-related measurement data identified in paragraphs (f)(2)(i) and (ii) of this section that cannot reasonably be measured according to the monitoring and QA/QC requirements of this subpart.

(i) If Calculation Method 1 for liquids unloading in § 98.233(f)(1) was used in calendar year 2014 and will be used again in calendar year 2015, the vented natural gas flow rate for any well in a unique tubing diameter group and pressure group combination that has not been previously measured.

(ii) If using Equation W–10A of this subpart to determine natural gas emissions from completions and workovers for representative wells, the initial and average flowback rates (when using Calculation Method 1 in § 98.233(g)(1)(i)) or pressures upstream and downstream of the choke (when using Calculation Method 2 in § 98.233(g)(1)(ii)) for any well in a well type combination that has not been previously measured.

(3) *Best available monitoring methods for emissions measurement.* You may use best available monitoring methods for sources listed in paragraphs (f)(3)(i) and (ii) of this section if the required measurement data cannot reasonably be obtained according to the monitoring and QA/QC requirements of this part.

(i) Centrifugal compressor as found measurements of manifolded emissions from groups of centrifugal compressor sources according to § 98.233(o)(4) and (5), in onshore natural gas processing, onshore natural gas transmission compression, underground natural gas storage, LNG storage, and LNG import and export equipment as specified in § 98.232(d)(2), (e)(2), (f)(2), (g)(2), and (h)(2).

(ii) Reciprocating compressor as found measurements of manifolded emissions from groups of reciprocating compressor sources according to § 98.233(p)(4) and (5), in onshore natural gas processing, onshore natural gas transmission compression, underground natural gas storage, LNG storage, and LNG import and export equipment as specified in § 98.232(d)(1), (e)(1), (f)(1), (g)(1), and (h)(1).

(4) *Requests for extension of the use of best available monitoring methods beyond March 31, 2015.* You may submit a request to the Administrator to use one or more best available monitoring methods for sources listed in paragraphs (f)(2) and (3) of this section beyond March 31, 2015.

(i) *Timing of request.* The extension request must be submitted to EPA no later than January 31, 2015.

(ii) *Content of request.* Requests must contain the following information:

(A) A list of specific source types and parameters for which you are seeking use of best available monitoring methods.

(B) For each specific source type for which you are requesting use of best available monitoring methods, a description of the reasons that the needed equipment could not be obtained and installed before April 1, 2015.

(C) A description of the specific actions you will take to obtain and install the equipment as soon as reasonably feasible and the expected date by

which the equipment will be installed and operating.

(iii) *Approval criteria.* To obtain approval to use best available monitoring methods after March 31, 2015, you must submit a request demonstrating to the Administrator's satisfaction that it is not reasonably feasible to acquire, install, and operate a required piece of monitoring equipment by April 1, 2015. The use of best available methods under paragraph (f) of this section will not be approved beyond December 31, 2015.

(g) [Reserved]

(h) For well venting for liquids unloading, if a monitoring period other than the full calendar year is used to determine the cumulative amount of time in hours of venting for each well (the term ''T_p'' in Equation W–7A and W–7B of § 98.233) or the number of unloading events per well (the term ''V_p'' in Equations W–8 and W–9 of § 98.233), then the monitoring period must begin before February 1 of the reporting year and must not end before December 1 of the reporting year. The end of one monitoring period must immediately precede the start of the next monitoring period for the next reporting year. All production days must be monitored and all venting accounted for.

[75 FR 74488, Nov. 30, 2010, as amended at 76 FR 22827, Apr. 25, 2011; 76 FR 59540, Sept. 27, 2011; 76 FR 80586, Dec. 23, 2011; 78 FR 25395, May 1, 2013; 79 FR 70410, Nov. 25, 2014]

§ 98.235 Procedures for estimating missing data.

Except as specified in § 98.233, whenever a value of a parameter is unavailable for a GHG emission calculation required by this subpart (including, but not limited to, if a measuring device malfunctions during unit operation or activity data are not collected), you must follow the procedures specified in paragraphs (a) through (i) of this section, as applicable.

(a) For stationary and portable combustion sources that use the calculation methods of subpart C of this part, you must use the missing data procedures in subpart C of this part.

(b) For each missing value of a parameter that should have been measured quarterly or more frequently using equipment including, but not limited to, a continuous flow meter, composition analyzer, thermocouple, or pressure gauge, you must substitute the arithmetic average of the quality-assured values of that parameter immediately preceding and immediately following the missing data incident. If the ''after'' value is not obtained by the end of the reporting year, you may use the ''before'' value for the missing data substitution. If, for a particular parameter, no quality-assured data are available prior to the missing data incident, you must use the first quality-assured value obtained after the missing data period as the substitute data value. A value is quality-assured according to the procedures specified in § 98.234.

(c) For each missing value of a parameter that should have been measured annually, you must repeat the estimation or measurement activity for those sources as soon as possible, including in the subsequent calendar year if missing data are not discovered until after December 31 of the year in which data are collected, until valid data for reporting are obtained. Data developed and/or collected in a subsequent calendar year to substitute for missing data cannot be used for that subsequent year's emissions estimation. Where missing data procedures are used for the previous year, at least 30 days must separate emissions estimation or measurements for the previous year and emissions estimation or measurements for the current year of data collection.

(d) For each missing value of a parameter that should have been measured biannually (every two years), you must conduct the estimation or measurement activity for those sources as soon as possible in the subsequent calendar year if the estimation or measurement was not made in the appropriate year (first year of data collection and every two years thereafter), until valid data for reporting are obtained. Data developed and/or collected in a subsequent calendar year to substitute for missing data cannot be used to alternate or postpone subsequent biannual emissions estimations or measurements.

(e) For the first 6 months of required data collection, facilities that become

newly subject to this subpart W may use best engineering estimates for any data that cannot reasonably be measured or obtained according to the requirements of this subpart.

(f) For the first 6 months of required data collection, facilities that are currently subject to this subpart W and that acquire new sources from another facility that were not previously subject to this subpart W may use best engineering estimates for any data related to those newly acquired sources that cannot reasonably be measured or obtained according to the requirements of this subpart.

(g) Unless addressed in another paragraph of this section, for each missing value of any activity data, you must substitute data value(s) using the best available estimate(s) of the parameter(s), based on all applicable and available process or other data (including, but not limited to, processing rates, operating hours).

(h) You must report information for all measured and substitute values of a parameter, and the procedures used to substitute an unavailable value of a parameter per the requirements in § 98.236(bb).

(i) You must follow recordkeeping requirements listed in § 98.237(f).

[79 FR 70410, Nov. 25, 2014]

§ 98.236 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain reported emissions and related information as specified in this section. Reporters that use a flow or volume measurement system that corrects to standard conditions as provided in the introductory text in § 98.233 for data elements that are otherwise required to be determined at actual conditions, report gas volumes at standard conditions rather the gas volumes at actual conditions and report the standard temperature and pressure used by the measurement system rather than the actual temperature and pressure.

(a) The annual report must include the information specified in paragraphs (a)(1) through (8) of this section for each applicable industry segment. The annual report must also include annual emissions totals, in metric tons of each GHG, for each applicable industry segment listed in paragraphs (a)(1) through (8) of this section, and each applicable emission source listed in paragraphs (b) through (z) of this section.

(1) *Onshore petroleum and natural gas production*. For the equipment/activities specified in paragraphs (a)(1)(i) through (xvii) of this section, report the information specified in the applicable paragraphs of this section.

(i) *Natural gas pneumatic devices*. Report the information specified in paragraph (b) of this section.

(ii) *Natural gas driven pneumatic pumps*. Report the information specified in paragraph (c) of this section.

(iii) *Acid gas removal units*. Report the information specified in paragraph (d) of this section.

(iv) *Dehydrators*. Report the information specified in paragraph (e) of this section.

(v) *Liquids unloading*. Report the information specified in paragraph (f) of this section.

(vi) *Completions and workovers with hydraulic fracturing*. Report the information specified in paragraph (g) of this section.

(vii) *Completions and workovers without hydraulic fracturing*. Report the information specified in paragraph (h) of this section.

(viii) *Onshore production storage tanks*. Report the information specified in paragraph (j) of this section.

(ix) *Well testing*. Report the information specified in paragraph (l) of this section.

(x) *Associated natural gas*. Report the information specified in paragraph (m) of this section.

(xi) *Flare stacks*. Report the information specified in paragraph (n) of this section.

(xii) *Centrifugal compressors*. Report the information specified in paragraph (o) of this section.

(xiii) *Reciprocating compressors*. Report the information specified in paragraph (p) of this section.

(xiv) *Equipment leaks by population count*. Report the information specified in paragraph (r) of this section.

(xv) *EOR injection pumps*. Report the information specified in paragraph (w) of this section.

(xvi) *EOR hydrocarbon liquids*. Report the information specified in paragraph (x) of this section.

(xvii) *Combustion equipment*. Report the information specified in paragraph (z) of this section.

(2) *Offshore petroleum and natural gas production*. Report the information specified in paragraph (s) of this section.

(3) *Onshore natural gas processing*. For the equipment/activities specified in paragraphs (a)(3)(i) through (vii) of this section, report the information specified in the applicable paragraphs of this section.

(i) *Acid gas removal units*. Report the information specified in paragraph (d) of this section.

(ii) *Dehydrators*. Report the information specified in paragraph (e) of this section.

(iii) *Blowdown vent stacks*. Report the information specified in paragraph (i) of this section.

(iv) *Flare stacks*. Report the information specified in paragraph (n) of this section.

(v) *Centrifugal compressors*. Report the information specified in paragraph (o) of this section.

(vi) *Reciprocating compressors*. Report the information specified in paragraph (p) of this section.

(vii) *Equipment leak surveys*. Report the information specified in paragraph (q) of this section.

(4) *Onshore natural gas transmission compression*. For the equipment/activities specified in paragraphs (a)(4)(i) through (vii) of this section, report the information specified in the applicable paragraphs of this section.

(i) *Natural gas pneumatic devices*. Report the information specified in paragraph (b) of this section.

(ii) *Blowdown vent stacks*. Report the information specified in paragraph (i) of this section.

(iii) *Transmission storage tanks*. Report the information specified in paragraph (k) of this section.

(iv) *Flare stacks*. Report the information specified in paragraph (n) of this section.

(v) *Centrifugal compressors*. Report the information specified in paragraph (o) of this section.

(vi) *Reciprocating compressors*. Report the information specified in paragraph (p) of this section.

(vii) *Equipment leak surveys*. Report the information specified in paragraph (q) of this section.

(5) *Underground natural gas storage*. For the equipment/activities specified in paragraphs (a)(5)(i) through (vi) of this section, report the information specified in the applicable paragraphs of this section.

(i) *Natural gas pneumatic devices*. Report the information specified in paragraph (b) of this section.

(ii) *Flare stacks*. Report the information specified in paragraph (n) of this section.

(iii) *Centrifugal compressors*. Report the information specified in paragraph (o) of this section.

(iv) *Reciprocating compressors*. Report the information specified in paragraph (p) of this section.

(v) *Equipment leak surveys*. Report the information specified in paragraph (q) of this section.

(vi) *Equipment leaks by population count*. Report the information specified in paragraph (r) of this section.

(6) *LNG storage*. For the equipment/activities specified in paragraphs (a)(6)(i) through (v) of this section, report the information specified in the applicable paragraphs of this section.

(i) *Flare stacks*. Report the information specified in paragraph (n) of this section.

(ii) *Centrifugal compressors*. Report the information specified in paragraph (o) of this section.

(iii) *Reciprocating compressors*. Report the information specified in paragraph (p) of this section.

(iv) *Equipment leak surveys*. Report the information specified in paragraph (q) of this section.

(v) *Equipment leaks by population count*. Report the information specified in paragraph (r) of this section.

(7) *LNG import and export equipment*. For the equipment/activities specified in paragraphs (a)(7)(i) through (vi) of this section, report the information specified in the applicable paragraphs of this section.

(i) *Blowdown vent stacks*. Report the information specified in paragraph (i) of this section.

(ii) *Flare stacks*. Report the information specified in paragraph (n) of this section.

(iii) *Centrifugal compressors*. Report the information specified in paragraph (o) of this section.

(iv) *Reciprocating compressors*. Report the information specified in paragraph (p) of this section.

(v) *Equipment leak surveys*. Report the information specified in paragraph (q) of this section.

(vi) *Equipment leaks by population count*. Report the information specified in paragraph (r) of this section.

(8) *Natural gas distribution*. For the equipment/activities specified in paragraphs (a)(8)(i) through (iii) of this section, report the information specified in the applicable paragraphs of this section.

(i) *Combustion equipment*. Report the information specified in paragraph (z) of this section.

(ii) *Equipment leak surveys*. Report the information specified in paragraph (q) of this section.

(iii) *Equipment leaks by population count*. Report the information specified in paragraph (r) of this section.

(b) *Natural gas pneumatic devices*. You must indicate whether the facility contains the following types of equipment: Continuous high bleed natural gas pneumatic devices, continuous low bleed natural gas pneumatic devices, and intermittent bleed natural gas pneumatic devices. If the facility contains any continuous high bleed natural gas pneumatic devices, continuous low bleed natural gas pneumatic devices, or intermittent bleed natural gas pneumatic devices, then you must report the information specified in paragraphs (b)(1) through (b)(4) of this section.

(1) The number of natural gas pneumatic devices as specified in paragraphs (b)(1)(i) and (ii) of this section.

(i) The total number of devices of each type, determined according to § 98.233(a)(1) and (2).

(ii) If the reported value in paragraph (b)(1)(i) of this section is an estimated value determined according to § 98.233(a)(2), then you must report the information specified in paragraphs (b)(1)(ii)(A) through (C) of this section.

(A) The number of devices of each type reported in paragraph (b)(1)(i) of this section that are counted.

(B) The number of devices of each type reported in paragraph (b)(1)(i) of this section that are estimated (not counted).

(C) Whether the calendar year is the first calendar year of reporting or the second calendar year of reporting.

(2) For each type of pneumatic device, the estimated average number of hours in the calendar year that the natural gas pneumatic devices reported in paragraph (b)(1)(i) of this section were operating in the calendar year (''T_t'' in Equation W–1 of this subpart).

(3) Annual CO_2 emissions, in metric tons CO_2, for the natural gas pneumatic devices combined, calculated using Equation W–1 of this subpart and § 98.233(a)(4), and reported in paragraph (b)(1)(i) of this section.

(4) Annual CH_4 emissions, in metric tons CH_4, for the natural gas pneumatic devices combined, calculated using Equation W–1 of this subpart and § 98.233(a)(4), and reported in paragraph (b)(1)(i) of this section.

(c) *Natural gas driven pneumatic pumps*. You must indicate whether the facility has any natural gas driven pneumatic pumps. If the facility contains any natural gas driven pneumatic pumps, then you must report the information specified in paragraphs (c)(1) through (4) of this section.

(1) Count of natural gas driven pneumatic pumps.

(2) Average estimated number of hours in the calendar year the pumps were operational (''T'' in Equation W–2 of this subpart).

(3) Annual CO_2 emissions, in metric tons CO_2, for all natural gas driven pneumatic pumps combined, calculated according to § 98.233(c)(1) and (2).

(4) Annual CH_4 emissions, in metric tons CH_4, for all natural gas driven pneumatic pumps combined, calculated according to § 98.233(c)(1) and (2).

(d) *Acid gas removal units*. You must indicate whether your facility has any acid gas removal units that vent directly to the atmosphere, to a flare or engine, or to a sulfur recovery plant. If your facility contains any acid gas removal units that vent directly to the atmosphere, to a flare or engine, or to

a sulfur recovery plant, then you must report the information specified in paragraphs (d)(1) and (2) of this section.

(1) You must report the information specified in paragraphs (d)(1)(i) through (vi) of this section for each acid gas removal unit.

(i) A unique name or ID number for the acid gas removal unit. For the onshore petroleum and natural gas production industry segment, a different name or ID may be used for a single acid gas removal unit for each location it operates at in a given year.

(ii) Total feed rate entering the acid gas removal unit, using a meter or engineering estimate based on process knowledge or best available data, in million cubic feet per year.

(iii) The calculation method used to calculate CO_2 emissions from the acid gas removal unit, as specified in § 98.233(d).

(iv) Whether any CO_2 emissions from the acid gas removal unit are recovered and transferred outside the facility, as specified in § 98.233(d)(11). If any CO_2 emissions from the acid gas removal unit were recovered and transferred outside the facility, then you must report the annual quantity of CO_2, in metric tons CO_2, that was recovered and transferred outside the facility under subpart PP of this part.

(v) Annual CO_2 emissions, in metric tons CO_2, from the acid gas removal unit, calculated using any one of the calculation methods specified in § 98.233(d) and as specified in § 98.233(d)(10) and (11).

(vi) Sub-basin ID that best represents the wells supplying gas to the unit (for the onshore petroleum and natural gas production industry segment only).

(2) You must report information specified in paragraphs (d)(2)(i) through (iii) of this section, applicable to the calculation method reported in paragraph (d)(1)(iii) of this section, for each acid gas removal unit.

(i) If you used Calculation Method 1 or Calculation Method 2 as specified in § 98.233(d) to calculate CO_2 emissions from the acid gas removal unit, then you must report the information specified in paragraphs (d)(2)(i)(A) and (B) of this section.

(A) Annual average volumetric fraction of CO_2 in the vent gas exiting the acid gas removal unit.

(B) Annual volume of gas vented from the acid gas removal unit, in cubic feet.

(ii) If you used Calculation Method 3 as specified in § 98.233(d) to calculate CO_2 emissions from the acid gas removal unit, then you must report the information specified in paragraphs (d)(2)(ii)(A) through (D) of this section.

(A) Indicate which equation was used (Equation W–4A or W–4B).

(B) Annual average volumetric fraction of CO_2 in the natural gas flowing out of the acid gas removal unit, as specified in Equation W–4A or Equation W–4B of this subpart.

(C) Annual average volumetric fraction of CO_2 content in natural gas flowing into the acid gas removal unit, as specified in Equation W–4A or Equation W–4B of this subpart.

(D) The natural gas flow rate used, as specified in Equation W–4A of this subpart, reported as either total annual volume of natural gas flow into the acid gas removal unit in cubic feet at actual conditions; or total annual volume of natural gas flow out of the acid gas removal unit, as specified in Equation W–4B of this subpart, in cubic feet at actual conditions.

(iii) If you used Calculation Method 4 as specified in § 98.233(d) to calculate CO_2 emissions from the acid gas removal unit, then you must report the information specified in paragraphs (d)(2)(iii)(A) through (L) of this section, as applicable to the simulation software package used.

(A) The name of the simulation software package used.

(B) Natural gas feed temperature, in degrees Fahrenheit.

(C) Natural gas feed pressure, in pounds per square inch.

(D) Natural gas flow rate, in standard cubic feet per minute.

(E) Acid gas content of the feed natural gas, in mole percent.

(F) Acid gas content of the outlet natural gas, in mole percent.

(G) Unit operating hours, excluding downtime for maintenance or standby, in hours per year.

(H) Exit temperature of the natural gas, in degrees Fahrenheit.

(I) Solvent pressure, in pounds per square inch.

(J) Solvent temperature, in degrees Fahrenheit.

(K) Solvent circulation rate, in gallons per minute.

(L) Solvent weight, in pounds per gallon.

(e) *Dehydrators.* You must indicate whether your facility contains any of the following equipment: Glycol dehydrators with an annual average daily natural gas throughput greater than or equal to 0.4 million standard cubic feet per day, glycol dehydrators with an annual average daily natural gas throughput less than 0.4 million standard cubic feet per day, and dehydrators that use desiccant. If your facility contains any of the equipment listed in this paragraph (e), then you must report the applicable information in paragraphs (e)(1) through (3).

(1) For each glycol dehydrator that has an annual average daily natural gas throughput greater than or equal to 0.4 million standard cubic feet per day (as specified in § 98.233(e)(1)), you must report the information specified in paragraphs (e)(1)(i) through (xviii) of this section for the dehydrator.

(i) A unique name or ID number for the dehydrator. For the onshore petroleum and natural gas production industry segment, a different name or ID may be used for a single dehydrator for each location it operates at in a given year.

(ii) Dehydrator feed natural gas flow rate, in million standard cubic feet per day, determined by engineering estimate based on best available data.

(iii) Dehydrator feed natural gas water content, in pounds per million standard cubic feet.

(iv) Dehydrator outlet natural gas water content, in pounds per million standard cubic feet.

(v) Dehydrator absorbent circulation pump type (*e.g.*, natural gas pneumatic, air pneumatic, or electric).

(vi) Dehydrator absorbent circulation rate, in gallons per minute.

(vii) Type of absorbent (*e.g.*, triethylene glycol (TEG), diethylene glycol (DEG), or ethylene glycol (EG)).

(viii) Whether stripper gas is used in dehydrator.

(ix) Whether a flash tank separator is used in dehydrator.

(x) Total time the dehydrator is operating, in hours.

(xi) Temperature of the wet natural gas, in degrees Fahrenheit.

(xii) Pressure of the wet natural gas, in pounds per square inch gauge.

(xiii) Mole fraction of CH_4 in wet natural gas.

(xiv) Mole fraction of CO_2 in wet natural gas.

(xv) Whether any dehydrator emissions are vented to a vapor recovery device.

(xvi) Whether any dehydrator emissions are vented to a flare or regenerator firebox/fire tubes. If any emissions are vented to a flare or regenerator firebox/fire tubes, report the information specified in paragraphs (e)(1)(xvi)(A) through (C) of this section for these emissions from the dehydrator.

(A) Annual CO_2 emissions, in metric tons CO_2, for the dehydrator, calculated according to § 98.233(e)(6).

(B) Annual CH_4 emissions, in metric tons CH_4, for the dehydrator, calculated according to § 98.233(e)(6).

(C) Annual N_2O emissions, in metric tons N_2O, for the dehydrator, calculated according to § 98.233(e)(6).

(xvii) Whether any dehydrator emissions are vented to the atmosphere without being routed to a flare or regenerator firebox/fire tubes. If any emissions are not routed to a flare or regenerator firebox/fire tubes, then you must report the information specified in paragraphs (e)(1)(xvii)(A) and (B) of this section for those emissions from the dehydrator.

(A) Annual CO_2 emissions, in metric tons CO_2, for the dehydrator when not venting to a flare or regenerator firebox/fire tubes, calculated according to § 98.233(e)(1), and, if applicable, (e)(5).

(B) Annual CH_4 emissions, in metric tons CH_4, for the dehydrator when not venting to a flare or regenerator firebox/fire tubes, calculated according to § 98.233(e)(1) and, if applicable, (e)(5).

(xviii) Sub-basin ID that best represents the wells supplying gas to the dehydrator (for the onshore petroleum and natural gas production industry segment only).

(2) For glycol dehydrators with an annual average daily natural gas throughput less than 0.4 million standard cubic feet per day (as specified in § 98.233(e)(2)), you must report the information specified in paragraphs (e)(2)(i) through (v) of this section for the entire facility.

(i) The total number of dehydrators at the facility.

(ii) Whether any dehydrator emissions were vented to a vapor recovery device. If any dehydrator emissions were vented to a vapor recovery device, then you must report the total number of dehydrators at the facility that vented to a vapor recovery device.

(iii) Whether any dehydrator emissions were vented to a control device other than a vapor recovery device or a flare or regenerator firebox/fire tubes. If any dehydrator emissions were vented to a control device(s) other than a vapor recovery device or a flare or regenerator firebox/fire tubes, then you must specify the type of control device(s) and the total number of dehydrators at the facility that were vented to each type of control device.

(iv) Whether any dehydrator emissions were vented to a flare or regenerator firebox/fire tubes. If any dehydrator emissions were vented to a flare or regenerator firebox/fire tubes, then you must report the information specified in paragraphs (e)(2)(iv)(A) through (D) of this section.

(A) The total number of dehydrators venting to a flare or regenerator firebox/fire tubes.

(B) Annual CO_2 emissions, in metric tons CO_2, for the dehydrators reported in paragraph (e)(2)(iv)(A) of this section, calculated according to § 98.233(e)(6).

(C) Annual CH_4 emissions, in metric tons CH_4, for the dehydrators reported in paragraph (e)(2)(iv)(A) of this section, calculated according to § 98.233(e)(6).

(D) Annual N_2O emissions, in metric tons N_2O, for the dehydrators reported in paragraph (e)(2)(iv)(A) of this section, calculated according to § 98.233(e)(6).

(v) For dehydrator emissions that were not vented to a flare or regenerator firebox/fire tubes, report the information specified in paragraphs (e)(2)(v)(A) and (B) of this section.

(A) Annual CO_2 emissions, in metric tons CO_2, for emissions from all dehydrators reported in paragraph (e)(2)(i) of this section that were not vented to a flare or regenerator firebox/fire tubes, calculated according to § 98.233(e)(2), (e)(4), and, if applicable, (e)(5), where emissions are added together for all such dehydrators.

(B) Annual CH_4 emissions, in metric tons CH_4, for emissions from all dehydrators reported in paragraph (e)(2)(i) of this section that were not vented to a flare or regenerator firebox/fire tubes, calculated according to § 98.233(e)(2), (e)(4), and, if applicable, (e)(5), where emissions are added together for all such dehydrators.

(3) For dehydrators that use desiccant (as specified in § 98.233(e)(3)), you must report the information specified in paragraphs (e)(3)(i) through (iii) of this section for the entire facility.

(i) The same information specified in paragraphs (e)(2)(i) through (iv) of this section for glycol dehydrators, and report the information under this paragraph for dehydrators that use desiccant.

(ii) Annual CO_2 emissions, in metric tons CO_2, for emissions from all desiccant dehydrators reported under paragraph (e)(3)(i) of this section that are not venting to a flare or regenerator firebox/fire tubes, calculated according to § 98.233(e)(3), (e)(4), and, if applicable, (e)(5), and summing for all such dehydrators.

(iii) Annual CH_4 emissions, in metric tons CH_4, for emissions from all desiccant dehydrators reported in paragraph (e)(3)(i) of this section that are not venting to a flare or regenerator firebox/fire tubes, calculated according to § 98.233(e)(3), (e)(4), and, if applicable, (e)(5), and summing for all such dehydrators.

(f) *Liquids unloading.* You must indicate whether well venting for liquids unloading occurs at your facility, and if so, which methods (as specified in § 98.233(f)) were used to calculate emissions. If your facility performs well venting for liquids unloading and uses Calculation Method 1, then you must report the information specified in paragraph (f)(1) of this section. If the

facility performs liquids unloading and uses Calculation Method 2 or 3, then you must report the information specified in paragraph (f)(2) of this section.

(1) For each sub-basin and well tubing diameter and pressure group for which you used Calculation Method 1 to calculate natural gas emissions from well venting for liquids unloading, report the information specified in paragraphs (f)(1)(i) through (xii) of this section. Report information separately for wells with plunger lifts and wells without plunger lifts.

(i) Sub-basin ID.

(ii) Well tubing diameter and pressure group ID.

(iii) Plunger lift indicator.

(iv) Count of wells vented to the atmosphere for the sub-basin/well tubing diameter and pressure group.

(v) Percentage of wells for which the monitoring period used to determine the cumulative amount of time venting was not the full calendar year.

(vi) Cumulative amount of time wells were vented (sum of ''T_p'' from Equation W–7A or W–7B of this subpart), in hours.

(vii) Cumulative number of unloadings vented to the atmosphere for each well, aggregated across all wells in the sub-basin/well tubing diameter and pressure group.

(viii) Annual natural gas emissions, in standard cubic feet, from well venting for liquids unloading, calculated according to § 98.233(f)(1).

(ix) Annual CO_2 emissions, in metric tons CO_2, from well venting for liquids unloading, calculated according to § 98.233(f)(1) and (4).

(x) Annual CH_4 emissions, in metric tons CH_4, from well venting for liquids unloading, calculated according to § 98.233(f)(1) and (4).

(xi) For each well tubing diameter group and pressure group combination, you must report the information specified in paragraphs (f)(1)(xi)(A) through (E) of this section for each individual well not using a plunger lift that was tested during the year.

(A) API Well Number of tested well.

(B) Casing pressure, in pounds per square inch absolute.

(C) Internal casing diameter, in inches.

(D) Measured depth of the well, in feet.

(E) Average flow rate of the well venting over the duration of the liquids unloading, in standard cubic feet per hour.

(xii) For each well tubing diameter group and pressure group combination, you must report the information specified in paragraphs (f)(1)(xii)(A) through (E) of this section for each individual well using a plunger lift that was tested during the year.

(A) API Well Number.

(B) The tubing pressure, in pounds per square inch absolute.

(C) The internal tubing diameter, in inches.

(D) Measured depth of the well, in feet.

(E) Average flow rate of the well venting over the duration of the liquids unloading, in standard cubic feet per hour.

(2) For each sub-basin for which you used Calculation Method 2 or 3 (as specified in § 93.233(f)) to calculate natural gas emissions from well venting for liquids unloading, you must report the information in (f)(2)(i) through (x) of this section. Report information separately for each calculation method.

(i) Sub-basin ID.

(ii) Calculation method.

(iii) Plunger lift indicator.

(iv) Number of wells vented to the atmosphere.

(v) Cumulative number of unloadings vented to the atmosphere for each well, aggregated across all wells.

(vi) Annual natural gas emissions, in standard cubic feet, from well venting for liquids unloading, calculated according to § 98.233(f)(2) or (3), as applicable.

(vii) Annual CO_2 emissions, in metric tons CO_2, from well venting for liquids unloading, calculated according to § 98.233(f)(2) or (3), as applicable, and § 98.233(f)(4).

(viii) Annual CH_4 emissions, in metric tons CH_4, from well venting for liquids unloading, calculated according to § 98.233(f)(2) or (3), as applicable, and § 98.233(f)(4).

(ix) For wells without plunger lifts, the average internal casing diameter, in inches.

(x) For wells with plunger lifts, the average internal tubing diameter, in inches.

(g) *Completions and workovers with hydraulic fracturing.* You must indicate whether your facility had any gas well completions or workovers with hydraulic fracturing during the calendar year. If your facility had gas well completions or workovers with hydraulic fracturing during the calendar year, then you must report information specified in paragraphs (g)(1) through (10) of this section, for each sub-basin and well type combination. Report information separately for completions and workovers.

(1) Sub-basin ID.

(2) Well type combination.

(3) Number of completions or workovers in the sub-basin and well type combination category.

(4) Calculation method used.

(5) If you used Equation W–10A to calculate annual volumetric total gas emissions, then you must report the information specified in paragraphs (g)(5)(i) and (ii) of this section.

(i) Cumulative gas flowback time, in hours, from when gas is first detected until sufficient quantities are present to enable separation, and the cumulative flowback time, in hours, after sufficient quantities of gas are present to enable separation (sum of ''$T_{p,i}$'' and sum of ''$T_{p,s}$'' values used in Equation W–10A). You may delay the reporting of this data element if you indicate in the annual report that wildcat wells and/or delineation wells are the only wells included in this number. If you elect to delay reporting of this data element, you must report by the date specified in § 98.236(cc) the total number of hours of flowback from all wells during completions or workovers and the API Well Number(s) for the well(s) included in the number.

(ii) For the measured well(s), the flowback rate, in standard cubic feet per hour (average of ''$FR_{s,p}$'' values used in Equation W–12A). You may delay the reporting of this data element if you indicate in the annual report that wildcat wells and/or delineation wells are the only wells that can be used for the measurement. If you elect to delay reporting of this data element, you must report by the date specified in § 98.236(cc) the measured flowback rate during well completion or workover and the API Well Number(s) for the well(s) included in the measurement.

(6) If you used Equation W–10B to calculate annual volumetric total gas emissions, then you must report the information specified in paragraphs (g)(6)(i) and (ii) of this section.

(i) Vented natural gas volume, in standard cubic feet, for each well in the sub-basin (''$FV_{s,p}$'' in Equation W–10B).

(ii) Flow rate at the beginning of the period of time when sufficient quantities of gas are present to enable separation, in standard cubic feet per hour, for each well in the sub-basin (''$FR_{p,i}$'' in Equation W–10B).

(7) Annual gas emissions, in standard cubic feet (''$E_{s,n}$'' in Equation W–10A or W–10B).

(8) Annual CO_2 emissions, in metric tons CO_2.

(9) Annual CH_4 emissions, in metric tons CH_4.

(10) If the well emissions were vented to a flare, then you must report the total N_2O emissions, in metric tons N_2O.

(h) *Completions and workovers without hydraulic fracturing.* You must indicate whether the facility had any gas well completions without hydraulic fracturing or any gas well workovers without hydraulic fracturing, and if the activities occurred with or without flaring. If the facility had gas well completions or workovers without hydraulic fracturing, then you must report the information specified in paragraphs (h)(1) through (4) of this section, as applicable.

(1) For each sub-basin with gas well completions without hydraulic fracturing and without flaring, report the information specified in paragraphs (h)(1)(i) through (vi) of this section.

(i) Sub-basin ID.

(ii) Number of well completions that vented gas directly to the atmosphere without flaring.

(iii) Total number of hours that gas vented directly to the atmosphere during venting for all completions in the sub-basin category (the sum of all ''T_p'' for completions that vented to the atmosphere as used in Equation W–13B).

(iv) Average daily gas production rate for all completions without hydraulic fracturing in the sub-basin without flaring, in standard cubic feet per hour (average of all ''V_p'' used in Equation W–13B). You may delay reporting of this data element if you indicate in the annual report that wildcat wells and/or delineation wells are the only wells that can be used for the measurement. If you elect to delay reporting of this data element, you must report by the date specified in § 98.236(cc) the measured average daily gas production rate for all wells during completions and the API Well Number(s) for the well(s) included in the measurement.

(v) Annual CO_2 emissions, in metric tons CO_2, that resulted from completions venting gas directly to the atmosphere (''$E_{s,p}$'' from Equation W–13B for completions that vented directly to the atmosphere, converted to mass emissions according to § 98.233(h)(1)).

(vi) Annual CH_4 emissions, in metric tons CH_4, that resulted from completions venting gas directly to the atmosphere (''$E_{s,p}$'' from Equation W–13B for completions that vented directly to the atmosphere, converted to mass emissions according to § 98.233(h)(1)).

(2) For each sub-basin with gas well completions without hydraulic fracturing and with flaring, report the information specified in paragraphs (h)(2)(i) through (vii) of this section.

(i) Sub-basin ID.

(ii) Number of well completions that flared gas.

(iii) Total number of hours that gas vented to a flare during venting for all completions in the sub-basin category (the sum of all ''T_p'' for completions that vented to a flare from Equation W–13B).

(iv) Average daily gas production rate for all completions without hydraulic fracturing in the sub-basin with flaring, in standard cubic feet per hour (the average of all ''V_p'' from Equation W–13B). You may delay reporting of this data element if you indicate in the annual report that wildcat wells and/or delineation wells are the only wells that can be used for the measurement. If you elect to delay reporting of this data element, you must report by the date specified in § 98.236(cc) the measured average daily gas production rate for all wells during completions and the API Well Number(s) for the well(s) included in the measurement.

(v) Annual CO_2 emissions, in metric tons CO_2, that resulted from completions that flared gas calculated according to § 98.233(h)(2).

(vi) Annual CH_4 emissions, in metric tons CH_4, that resulted from completions that flared gas calculated according to § 98.233(h)(2).

(vii) Annual N_2O emissions, in metric tons N_2O, that resulted from completions that flared gas calculated according to § 98.233(h)(2).

(3) For each sub-basin with gas well workovers without hydraulic fracturing and without flaring, report the information specified in paragraphs (h)(3)(i) through (iv) of this section.

(i) Sub-basin ID.

(ii) Number of workovers that vented gas to the atmosphere without flaring.

(iii) Annual CO_2 emissions, in metric tons CO_2 per year, that resulted from workovers venting gas directly to the atmosphere (''$E_{s,wo}$'' in Equation W–13A for workovers that vented directly to the atmosphere, converted to mass emissions as specified in § 98.233(h)(1)).

(iv) Annual CH_4 emissions, in metric tons CH_4 per year, that resulted from workovers venting gas directly to the atmosphere (''$E_{s,wo}$'' in Equation W–13A for workovers that vented directly to the atmosphere, converted to mass emissions as specified in § 98.233(h)(1)).

(4) For each sub-basin with gas well workovers without hydraulic fracturing and with flaring, report the information specified in paragraphs (h)(4)(i) through (v) of this section.

(i) Sub-basin ID.

(ii) Number of workovers that flared gas.

(iii) Annual CO_2 emissions, in metric tons CO_2 per year, that resulted from workovers that flared gas calculated as specified in § 98.233(h)(2).

(iv) Annual CH_4 emissions, in metric tons CH_4 per year, that resulted from workovers that flared gas, calculated as specified in § 98.233(h)(2).

(v) Annual N_2O emissions, in metric tons N_2O per year, that resulted from workovers that flared gas calculated as specified in § 98.233(h)(2).

(i) *Blowdown vent stacks.* You must indicate whether your facility has blowdown vent stacks. If your facility has blowdown vent stacks, then you must report whether emissions were calculated by equipment or event type or by using flow meters or a combination of both. If you calculated emissions by equipment or event type for any blowdown vent stacks, then you must report the information specified in paragraph (i)(1) of this section considering, in aggregate, all blowdown vent stacks for which emissions were calculated by equipment or event type. If you calculated emissions using flow meters for any blowdown vent stacks, then you must report the information specified in paragraph (i)(2) of this section considering, in aggregate, all blowdown vent stacks for which emissions were calculated using flow meters.

(1) *Report by equipment or event type.* If you calculated emissions from blowdown vent stacks by the seven categories listed in § 98.233(i)(2), then you must report the equipment or event types and the information specified in paragraphs (i)(1)(i) through (iii) of this section for each equipment or event type. If a blowdown event resulted in emissions from multiple equipment types, and the emissions cannot be apportioned to the different equipment types, then you may report the information in paragraphs (i)(1)(i) through (iii) of this section for the equipment type that represented the largest portion of the emissions for the blowdown event.

(i) Total number of blowdowns in the calendar year for the equipment or event type (the sum of equation variable ''N'' from Equation W–14A or Equation W–14B of this subpart, for all unique physical volumes for the equipment or event type).

(ii) Annual CO_2 emissions for the equipment or event type, in metric tons CO_2, calculated according to § 98.233(i)(2)(iii).

(iii) Annual CH_4 emissions for the equipment or event type, in metric tons CH_4, calculated according to § 98.233(i)(2)(iii).

(2) *Report by flow meter.* If you elect to calculate emissions from blowdown vent stacks by using a flow meter according to § 98.233(i)(3), then you must report the information specified in paragraphs (i)(2)(i) and (ii) of this section for the facility.

(i) Annual CO_2 emissions from all blowdown vent stacks at the facility for which emissions were calculated using flow meters, in metric tons CO_2 (the sum of all CO_2 mass emission values calculated according to § 98.233(i)(3), for all flow meters).

(ii) Annual CH_4 emissions from all blowdown vent stacks at the facility for which emissions were calculated using flow meters, in metric tons CH_4, (the sum of all CH_4 mass emission values calculated according to § 98.233(i)(3), for all flow meters).

(j) *Onshore production storage tanks.* You must indicate whether your facility sends produced oil to atmospheric tanks. If your facility sends produced oil to atmospheric tanks, then you must indicate which Calculation Method(s) you used to calculate GHG emissions, and you must report the information specified in paragraphs (j)(1) and (2) of this section as applicable. If you used Calculation Method 1 or Calculation Method 2, and any atmospheric tanks were observed to have malfunctioning dump valves during the calendar year, then you must indicate that dump valves were malfunctioning and you must report the information specified in paragraph (j)(3) of this section.

(1) If you used Calculation Method 1 or Calculation Method 2 to calculate GHG emissions, then you must report the information specified in paragraphs (j)(1)(i) through (xiv) of this section for each sub-basin and by calculation method.

(i) Sub-basin ID.

(ii) Calculation method used, and name of the software package used if using Calculation Method 1.

(iii) The total annual oil volume from gas-liquid separators and direct from wells that is sent to applicable onshore production storage tanks, in barrels. You may delay reporting of this data element if you indicate in the annual report that wildcat wells and delineation wells are the only wells in the sub-basin with oil production greater than or equal to 10 barrels per

day and flowing to gas-liquid separators or direct to storage tanks. If you elect to delay reporting of this data element, you must report by the date specified in § 98.236(cc) the total volume of oil from all wells and the API Well Number(s) for the well(s) included in this volume.

(iv) The average gas-liquid separator temperature, in degrees Fahrenheit.

(v) The average gas-liquid separator pressure, in pounds per square inch gauge.

(vi) The average sales oil or stabilized oil API gravity, in degrees.

(vii) The minimum and maximum concentration (mole fraction) of CO_2 in flash gas from onshore production storage tanks.

(viii) The minimum and maximum concentration (mole fraction) of CH_4 in flash gas from onshore production storage tanks.

(ix) The number of wells sending oil to gas-liquid separators or directly to atmospheric tanks.

(x) The number of atmospheric tanks.

(xi) An estimate of the number of atmospheric tanks, not on well-pads, receiving your oil.

(xii) If any emissions from the atmospheric tanks at your facility were controlled with vapor recovery systems, then you must report the information specified in paragraphs (j)(1)(xii)(A) through (E) of this section.

(A) The number of atmospheric tanks that control emissions with vapor recovery systems.

(B) Total CO_2 mass, in metric tons CO_2, that was recovered during the calendar year using a vapor recovery system.

(C) Total CH_4 mass, in metric tons CH_4, that was recovered during the calendar year using a vapor recovery system.

(D) Annual CO_2 emissions, in metric tons CO_2, from atmospheric tanks equipped with vapor recovery systems.

(E) Annual CH_4 emissions, in metric tons CH_4, from atmospheric tanks equipped with vapor recovery systems.

(xiii) If any atmospheric tanks at your facility vented gas directly to the atmosphere without using a vapor recovery system or without flaring, then you must report the information specified in paragraphs (j)(1)(xiii)(A) through (C) of this section.

(A) The number of atmospheric tanks that vented gas directly to the atmosphere without using a vapor recovery system or without flaring.

(B) Annual CO_2 emissions, in metric tons CO_2, that resulted from venting gas directly to the atmosphere.

(C) Annual CH_4 emissions, in metric tons CH_4, that resulted from venting gas directly to the atmosphere.

(xiv) If you controlled emissions from any atmospheric tanks at your facility with one or more flares, then you must report the information specified in paragraphs (j)(1)(xiv)(A) through (D) of this section.

(A) The number of atmospheric tanks that controlled emissions with flares.

(B) Annual CO_2 emissions, in metric tons CO_2, from atmospheric tanks that controlled emissions with one or more flares.

(C) Annual CH_4 emissions, in metric tons CH_4, from atmospheric tanks that controlled emissions with one or more flares.

(D) Annual N_2O emissions, in metric tons N_2O, from atmospheric tanks that controlled emissions with one or more flares.

(2) If you used Calculation Method 3 to calculate GHG emissions, then you must report the information specified in paragraphs (j)(2)(i) through (iii) of this section.

(i) Report the information specified in paragraphs (j)(2)(i)(A) through (F) of this section, at the basin level, for atmospheric tanks where emissions were calculated using Calculation Method 3.

(A) The total annual oil throughput that is sent to all atmospheric tanks in the basin, in barrels. You may delay reporting of this data element if you indicate in the annual report that wildcat wells and delineation wells are the only wells in the sub-basin with oil production less than 10 barrels per day and that send oil to atmospheric tanks. If you elect to delay reporting of this data element, you must report by the date specified in § 98.236(cc) the total annual oil throughput from all wells and the API Well Number(s) for the well(s) included in this volume.

(B) An estimate of the fraction of oil throughput reported in paragraph

(j)(2)(i)(A) of this section sent to atmospheric tanks in the basin that controlled emissions with flares.

(C) An estimate of the fraction of oil throughput reported in paragraph (j)(2)(i)(A) of this section sent to atmospheric tanks in the basin that controlled emissions with vapor recovery systems.

(D) The number of atmospheric tanks in the basin.

(E) The number of wells with gas-liquid separators (''Count'' from Equation W–15 of this subpart) in the basin.

(F) The number of wells without gas-liquid separators (''Count'' from Equation W–15 of this subpart) in the basin.

(ii) Report the information specified in paragraphs (j)(2)(ii)(A) through (D) of this section for each sub-basin with atmospheric tanks whose emissions were calculated using Calculation Method 3 and that did not control emissions with flares.

(A) Sub-basin ID.

(B) The number of atmospheric tanks in the sub-basin that did not control emissions with flares.

(C) Annual CO_2 emissions, in metric tons CO_2, from atmospheric tanks in the sub-basin that did not control emissions with flares, calculated using Equation W–15 of this subpart and adjusted for vapor recovery, if applicable.

(D) Annual CH_4 emissions, in metric tons CH_4, from atmospheric tanks in the sub-basin that did not control emissions with flares, calculated using Equation W–15 of this subpart and adjusted for vapor recovery, if applicable.

(iii) Report the information specified in paragraphs (j)(2)(iii)(A) through (E) of this section for each sub-basin with atmospheric tanks whose emissions were calculated using Calculation Method 3 and that controlled emissions with flares.

(A) Sub-basin ID.

(B) The number of atmospheric tanks in the sub-basin that controlled emissions with flares.

(C) Annual CO_2 emissions, in metric tons CO_2, from atmospheric tanks that controlled emissions with flares.

(D) Annual CH_4 emissions, in metric tons CH_4, from atmospheric tanks that controlled emissions with flares.

(E) Annual N_2O emissions, in metric tons N_2O, from atmospheric tanks that controlled emissions with flares.

(3) If you used Calculation Method 1 or Calculation Method 2, and any gas-liquid separator liquid dump values did not close properly during the calendar year, then you must report the information specified in paragraphs (j)(3)(i) through (iv) of this section for each sub-basin.

(i) The total number of gas-liquid separators whose liquid dump valves did not close properly during the calendar year.

(ii) The total time the dump valves on gas-liquid separators did not close properly in the calendar year, in hours (sum of the ''T_n'' values used in Equation W–16 of this subpart).

(iii) Annual CO_2 emissions, in metric tons CO_2, that resulted from dump valves on gas-liquid separators not closing properly during the calendar year, calculated using Equation W–16 of this subpart.

(iv) Annual CH_4 emissions, in metric tons CH_4, that resulted from the dump valves on gas-liquid separators not closing properly during the calendar year, calculated using Equation W–16 of this subpart.

(k) *Transmission storage tanks.* You must indicate whether your facility contains any transmission storage tanks. If your facility contains at least one transmission storage tank, then you must report the information specified in paragraphs (k)(1) through (3) of this section for each transmission storage tank vent stack.

(1) For each transmission storage tank vent stack, report the information specified in (k)(1)(i) through (iv) of this section.

(i) The unique name or ID number for the transmission storage tank vent stack.

(ii) Method used to determine if dump valve leakage occurred.

(iii) Indicate whether scrubber dump valve leakage occurred for the transmission storage tank vent according to § 98.233(k)(2).

(iv) Indicate if there is a flare attached to the transmission storage tank vent stack.

(2) If scrubber dump valve leakage occurred for a transmission storage

tank vent stack, as reported in paragraph (k)(1)(iii) of this section, and the vent stack vented directly to the atmosphere during the calendar year, then you must report the information specified in paragraphs (k)(2)(i) through (v) of this section for each transmission storage vent stack where scrubber dump valve leakage occurred.

(i) Method used to measure the leak rate.

(ii) Measured leak rate (average leak rate from a continuous flow measurement device), in standard cubic feet per hour.

(iii) Duration of time that the leak is counted as having occurred, in hours, as determined in § 98.233(k)(3) (may use best available data if a continuous flow measurement device was used).

(iv) Annual CO_2 emissions, in metric tons CO_2, that resulted from venting gas directly to the atmosphere, calculated according to § 98.233(k)(1) through (4).

(v) Annual CH_4 emissions, in metric tons CH_4, that resulted from venting gas directly to the atmosphere, calculated according to § 98.233(k)(1) through (4).

(3) If scrubber dump valve leakage occurred for a transmission storage tank vent stack, as reported in paragraph (k)(1)(iii), and the vent stack vented to a flare during the calendar year, then you must report the information specified in paragraphs (k)(3)(i) through (vi) of this section.

(i) Method used to measure the leak rate.

(ii) Measured leakage rate (average leak rate from a continuous flow measurement device) in standard cubic feet per hour.

(iii) Duration of time that flaring occurred in hours, as defined in § 98.233(k)(3) (may use best available data if a continuous flow measurement device was used).

(iv) Annual CO_2 emissions, in metric tons CO_2, that resulted from flaring gas, calculated according to § 98.233(k)(5).

(v) Annual CH_4 emissions, in metric tons CH_4, that resulted from flaring gas, calculated according to § 98.233(k)(5).

(vi) Annual N_2O emissions, in metric tons N_2O, that resulted from flaring gas, calculated according to § 98.233(k)(5).

(l) *Well testing.* You must indicate whether you performed gas well or oil well testing, and if the testing of gas wells or oil wells resulted in vented or flared emissions during the calendar year. If you performed well testing that resulted in vented or flared emissions during the calendar year, then you must report the information specified in paragraphs (l)(1) through (4) of this section, as applicable.

(1) If you used Equation W–17A to calculate annual volumetric natural gas emissions at actual conditions from oil wells and the emissions are not vented to a flare, then you must report the information specified in paragraphs (l)(1)(i) through (vi) of this section.

(i) Number of wells tested in the calendar year.

(ii) Average number of well testing days per well for well(s) tested in the calendar year.

(iii) Average gas to oil ratio for well(s) tested, in cubic feet of gas per barrel of oil.

(iv) Average flow rate for well(s) tested, in barrels of oil per day. You may delay reporting of this data element if you indicate in the annual report that wildcat wells and/or delineation wells are the only wells that are tested. If you elect to delay reporting of this data element, you must report by the date specified in § 98.236(cc) the measured average flow rate for well(s) tested and the API Well Number(s) for the well(s) included in the measurement.

(v) Annual CO_2 emissions, in metric tons CO_2, calculated according to § 98.233(l).

(vi) Annual CH_4 emissions, in metric tons CH_4, calculated according to § 98.233(l).

(2) If you used Equation W–17A to calculate annual volumetric natural gas emissions at actual conditions from oil wells and the emissions are vented to a flare, then you must report the information specified in paragraphs (l)(2)(i) through (vii) of this section.

(i) Number of wells tested in the calendar year.

(ii) Average number of well testing days per well for well(s) tested in the calendar year.

(iii) Average gas to oil ratio for well(s) tested, in cubic feet of gas per barrel of oil.

(iv) Average flow rate for well(s) tested, in barrels of oil per day. You may delay reporting of this data element if you indicate in the annual report that wildcat wells and/or delineation wells are the only wells that are tested. If you elect to delay reporting of this data element, you must report by the date specified in § 98.236(cc) the measured average flow rate for well(s) tested and the API Well Number(s) for the well(s) included in the measurement.

(v) Annual CO_2 emissions, in metric tons CO_2, calculated according to § 98.233(l).

(vi) Annual CH_4 emissions, in metric tons CH_4, calculated according to § 98.233(l).

(vii) Annual N_2O emissions, in metric tons N_2O, calculated according to § 98.233(l).

(3) If you used Equation W–17B to calculate annual volumetric natural gas emissions at actual conditions from gas wells and the emissions were not vented to a flare, then you must report the information specified in paragraphs (l)(3)(i) through (v) of this section.

(i) Number of wells tested in the calendar year.

(ii) Average number of well testing days per well for well(s) tested in the calendar year.

(iii) Average annual production rate for well(s) tested, in actual cubic feet per day. You may delay reporting of this data element if you indicate in the annual report that wildcat wells and/or delineation wells are the only wells that are tested. If you elect to delay reporting of this data element, you must report by the date specified in § 98.236(cc) the measured average annual production rate for well(s) tested and the API Well Number(s) for the well(s) included in the measurement.

(iv) Annual CO_2 emissions, in metric tons CO_2, calculated according to § 98.233(l).

(v) Annual CH_4 emissions, in metric tons CH_4, calculated according to § 98.233(l).

(4) If you used Equation W–17B to calculate annual volumetric natural gas emissions at actual conditions from gas wells and the emissions were vented to a flare, then you must report the information specified in paragraphs (l)(4)(i) through (vi) of this section.

(i) Number of wells tested in calendar year.

(ii) Average number of well testing days per well for well(s) tested in the calendar year.

(iii) Average annual production rate for well(s) tested, in actual cubic feet per day. You may delay reporting of this data element if you indicate in the annual report that wildcat wells and/or delineation wells are the only wells that are tested. If you elect to delay reporting of this data element, you must report by the date specified in § 98.236(cc) the measured average annual production rate for well(s) tested and the API Well Number(s) for the well(s) included in the measurement.

(iv) Annual CO_2 emissions, in metric tons CO_2, calculated according to § 98.233(l).

(v) Annual CH_4 emissions, in metric tons CH_4, calculated according to § 98.233(l).

(vi) Annual N_2O emissions, in metric tons N_2O, calculated according to § 98.233(l).

(m) *Associated natural gas.* You must indicate whether any associated gas was vented or flared during the calendar year. If associated gas was vented or flared during the calendar year, then you must report the information specified in paragraphs (m)(1) through (8) of this section for each sub-basin.

(1) Sub-basin ID.

(2) Indicate whether any associated gas was vented directly to the atmosphere without flaring.

(3) Indicate whether any associated gas was flared.

(4) Average gas to oil ratio, in standard cubic feet of gas per barrel of oil (average of the ''GOR'' values used in Equation W–18 of this subpart).

(5) Volume of oil produced, in barrels, in the calendar year during the time periods in which associated gas was vented or flared (the sum of ''$V_{p,q}$'' used in Equation W–18 of this subpart). You may delay reporting of this data element if you indicate in the annual report that wildcat wells and/or delineation wells are the only wells from which associated gas was vented or flared. If you elect to delay reporting

of this data element, you must report by the date specified in § 98.236(cc) the volume of oil produced for well(s) with associated gas venting and flaring and the API Well Number(s) for the well(s) included in the measurement.

(6) Total volume of associated gas sent to sales, in standard cubic feet, in the calendar year during time periods in which associated gas was vented or flared (the sum of ''SG'' values used in Equation W–18 of § 98.233(m)). You may delay reporting of this data element if you indicate in the annual report that wildcat wells and/or delineation wells from which associated gas was vented or flared. If you elect to delay reporting of this data element, you must report by the date specified in § 98.236(cc) the measured total volume of associated gas sent to sales for well(s) with associated gas venting and flaring and the API Well Number(s) for the well(s) included in the measurement.

(7) If you had associated gas emissions vented directly to the atmosphere without flaring, then you must report the information specified in paragraphs (m)(7)(i) through (iii) of this section for each sub-basin.

(i) Total number of wells for which associated gas was vented directly to the atmosphere without flaring.

(ii) Annual CO_2 emissions, in metric tons CO_2, calculated according to § 98.233(m)(3) and (4).

(iii) Annual CH_4 emissions, in metric tons CH_4, calculated according to § 98.233(m)(3) and (4).

(8) If you had associated gas emissions that were flared, then you must report the information specified in paragraphs (m)(8)(i) through (iv) of this section for each sub-basin.

(i) Total number of wells for which associated gas was flared.

(ii) Annual CO_2 emissions, in metric tons CO_2, calculated according to § 98.233(m)(5).

(iii) Annual CH_4 emissions, in metric tons CH_4, calculated according to § 98.233(m)(5).

(iv) Annual N_2O emissions, in metric tons N_2O, calculated according to § 98.233(m)(5).

(n) *Flare stacks.* You must indicate if your facility contains any flare stacks. You must report the information specified in paragraphs (n)(1) through (12) of this section for each flare stack at your facility, and for each industry segment applicable to your facility.

(1) Unique name or ID for the flare stack. For the onshore petroleum and natural gas production industry segment, a different name or ID may be used for a single flare stack for each location where it operates at in a given calendar year.

(2) Indicate whether the flare stack has a continuous flow measurement device.

(3) Indicate whether the flare stack has a continuous gas composition analyzer on feed gas to the flare.

(4) Volume of gas sent to the flare, in standard cubic feet (''V_s'' in Equations W–19 and W–20 of this subpart).

(5) Fraction of the feed gas sent to an un-lit flare (''Z_u'' in Equation W–19 of this subpart).

(6) Flare combustion efficiency, expressed as the fraction of gas combusted by a burning flare.

(7) Mole fraction of CH_4 in the feed gas to the flare (''X_{CH4}'' in Equation W–19 of this subpart).

(8) Mole fraction of CO_2 in the feed gas to the flare (''X_{CO2}'' in Equation W–20 of this subpart).

(9) Annual CO_2 emissions, in metric tons CO_2 (refer to Equation W–20 of this subpart).

(10) Annual CH_4 emissions, in metric tons CH_4 (refer to Equation W–19 of this subpart).

(11) Annual N_2O emissions, in metric tons N_2O (refer to Equation W–40 of this subpart).

(12) Indicate whether a CEMS was used to measure emissions from the flare. If a CEMS was used to measure emissions from the flare, then you are not required to report N_2O and CH_4 emissions for the flare stack.

(o) *Centrifugal compressors.* You must indicate whether your facility has centrifugal compressors. You must report the information specified in paragraphs (o)(1) and (2) of this section for all centrifugal compressors at your facility. For each compressor source or manifolded group of compressor sources that you conduct as found leak measurements as specified in § 98.233(o)(2) or (4), you must report the information specified in paragraph

(o)(3) of this section. For each compressor source or manifolded group of compressor sources that you conduct continuous monitoring as specified in § 98.233(o)(3) or (5), you must report the information specified in paragraph (o)(4) of this section. Centrifugal compressors in onshore petroleum and natural gas production are not required to report information in paragraphs (o)(1) through (4) of this section and instead must report the information specified in paragraph (o)(5) of this section.

(1) *Compressor activity data.* Report the information specified in paragraphs (o)(1)(i) through (xiv) of this section for each centrifugal compressor located at your facility.

(i) Unique name or ID for the centrifugal compressor.

(ii) Hours in operating-mode.

(iii) Hours in not-operating-depressurized-mode.

(iv) Indicate whether the compressor was measured in operating-mode.

(v) Indicate whether the compressor was measured in not-operating-depressurized-mode.

(vi) Indicate which, if any, compressor sources are part of a manifolded group of compressor sources.

(vii) Indicate which, if any, compressor sources are routed to a flare.

(viii) Indicate which, if any, compressor sources have vapor recovery.

(ix) Indicate which, if any, compressor source emissions are captured for fuel use or are routed to a thermal oxidizer.

(x) Indicate whether the compressor has blind flanges installed and associated dates.

(xi) Indicate whether the compressor has wet or dry seals.

(xii) If the compressor has wet seals, the number of wet seals.

(xiii) Power output of the compressor driver (hp).

(xiv) Indicate whether the compressor had a scheduled depressurized shutdown during the reporting year.

(2) *Compressor source.* (i) For each compressor source at each compressor, report the information specified in paragraphs (o)(2)(i)(A) through (C) of this section.

(A) Centrifugal compressor name or ID. Use the same ID as in paragraph (o)(1)(i) of this section.

(B) Centrifugal compressor source (wet seal, isolation valve, or blowdown valve).

(C) Unique name or ID for the leak or vent. If the leak or vent is connected to a manifolded group of compressor sources, use the same leak or vent ID for each compressor source in the manifolded group. If multiple compressor sources are released through a single vent for which continuous measurements are used, use the same leak or vent ID for each compressor source released via the measured vent. For a single compressor using as found measurements, you must provide a different leak or vent ID for each compressor source.

(ii) For each leak or vent, report the information specified in paragraphs (o)(2)(ii)(A) through (E) of this section.

(A) Indicate whether the leak or vent is for a single compressor source or manifolded group of compressor sources and whether the emissions from the leak or vent are released to the atmosphere, routed to a flare, combustion (fuel or thermal oxidizer), or vapor recovery.

(B) Indicate whether an as found measurement(s) as identified in § 98.233(o)(2) or (4) was conducted on the leak or vent.

(C) Indicate whether continuous measurements as identified in § 98.233(o)(3) or (5) were conducted on the leak or vent.

(D) Report emissions as specified in paragraphs (o)(2)(ii)(D)(*1*) and (*2*) of this section for the leak or vent. If the leak or vent is routed to a flare, combustion, or vapor recovery, you are not required to report emissions under this paragraph.

(*1*) Annual CO_2 emissions, in metric tons CO_2.

(*2*) Annual CH_4 emissions, in metric tons CH_4.

(E) If the leak or vent is routed to flare, combustion, or vapor recovery, report the percentage of time that the respective device was operational when the compressor source emissions were routed to the device.

(3) *As found measurement sample data.* If the measurement methods specified

in § 98.233(o)(2) or (4) are conducted, report the information specified in paragraph (o)(3)(i) of this section. If the calculation specified in § 98.233(o)(6)(ii) is performed, report the information specified in paragraph (o)(3)(ii) of this section.

(i) For each as found measurement performed on a leak or vent, report the information specified in paragraphs (o)(3)(i)(A) through (F) of this section.

(A) Name or ID of leak or vent. Use same leak or vent ID as in paragraph (o)(2)(i)(C) of this section.

(B) Measurement date.

(C) Measurement method. If emissions were not detected when using a screening method, report the screening method. If emissions were detected using a screening method, report only the method subsequently used to measure the volumetric emissions.

(D) Measured flow rate, in standard cubic feet per hour.

(E) For each compressor attached to the leak or vent, report the compressor mode during which the measurement was taken.

(F) If the measurement is for a manifolded group of compressor sources, indicate whether the measurement location is prior to or after comingling with non-compressor emission sources.

(ii) For each compressor mode-source combination where a reporter emission factor as calculated in Equation W–23 was used to calculate emissions in Equation W–22, report the information specified in paragraphs (o)(3)(ii)(A) through (D) of this section.

(A) The compressor mode-source combination.

(B) The compressor mode-source combination reporter emission factor, in standard cubic feet per hour ($EF_{s,m}$ in Equation W–23).

(C) The total number of compressors measured in the compressor mode-source combination in the current reporting year and the preceding two reporting years ($Count_m$ in Equation W–23).

(D) Indicate whether the compressor mode-source combination reporter emission factor is facility-specific or based on all of the reporter's applicable facilities.

(4) *Continuous measurement data.* If the measurement methods specified in § 98.233(o)(3) or (5) are conducted, report the information specified in paragraphs (o)(4)(i) through (iv) of this section for each continuous measurement conducted on each leak or vent associated with each compressor source or manifolded group of compressor sources.

(i) Name or ID of leak or vent. Use same leak or vent ID as in paragraph (o)(2)(i)(C) of this section.

(ii) Measured volume of flow during the reporting year, in million standard cubic feet.

(iii) Indicate whether the measured volume of flow during the reporting year includes compressor blowdown emissions as allowed for in § 98.233(o)(3)(ii) and (o)(5)(iii).

(iv) If the measurement is for a manifolded group of compressor sources, indicate whether the measurement location is prior to or after comingling with non-compressor emission sources.

(5) *Onshore petroleum and natural gas production.* Centrifugal compressors with wet seal degassing vents in onshore petroleum and natural gas production must report the information specified in paragraphs (o)(5)(i) through (iii) of this section.

(i) Number of centrifugal compressors that have wet seal oil degassing vents.

(ii) Annual CO_2 emissions, in metric tons CO_2, from centrifugal compressors with wet seal oil degassing vents.

(iii) Annual CH_4 emissions, in metric tons CH_4, from centrifugal compressors with wet seal oil degassing vents.

(p) *Reciprocating compressors.* You must indicate whether your facility has reciprocating compressors. You must report the information specified in paragraphs (p)(1) and (2) of this section for all reciprocating compressors at your facility. For each compressor source or manifolded group of compressor sources that you conduct as found leak measurements as specified in § 98.233(p)(2) or (4), you must report the information specified in paragraph (p)(3) of this section. For each compressor source or manifolded group of compressor sources that you conduct continuous monitoring as specified in

§ 98.233(p)(3) or (5), you must report the information specified in paragraph (p)(4) of this section. Reciprocating compressors in onshore petroleum and natural gas production are not required to report information in paragraphs (p)(1) through (4) of this section and instead must report the information specified in paragraph (p)(5) of this section.

(1) *Compressor activity data*. Report the information specified in paragraphs (p)(1)(i) through (xiv) of this section for each reciprocating compressor located at your facility.

(i) Unique name or ID for the reciprocating compressor.

(ii) Hours in operating-mode.

(iii) Hours in standby-pressurized-mode.

(iv) Hours in not-operating-depressurized-mode.

(v) Indicate whether the compressor was measured in operating-mode.

(vi) Indicate whether the compressor was measured in standby-pressurized-mode.

(vii) Indicate whether the compressor was measured in not-operating-depressurized-mode.

(viii) Indicate which, if any, compressor sources are part of a manifolded group of compressor sources.

(ix) Indicate which, if any, compressor sources are routed to a flare.

(x) Indicate which, if any, compressor sources have vapor recovery.

(xi) Indicate which, if any, compressor source emissions are captured for fuel use or are routed to a thermal oxidizer.

(xii) Indicate whether the compressor has blind flanges installed and associated dates.

(xiii) Power output of the compressor driver (hp).

(xiv) Indicate whether the compressor had a scheduled depressurized shutdown during the reporting year.

(2) *Compressor source*. (i) For each compressor source at each compressor, report the information specified in paragraphs (p)(2)(i)(A) through (C) of this section.

(A) Reciprocating compressor name or ID. Use the same ID as in paragraph (p)(1)(i) of this section.

(B) Reciprocating compressor source (isolation valve, blowdown valve, or rod packing).

(C) Unique name or ID for the leak or vent. If the leak or vent is connected to a manifolded group of compressor sources, use the same leak or vent ID for each compressor source in the manifolded group. If multiple compressor sources are released through a single vent for which continuous measurements are used, use the same leak or vent ID for each compressor source released via the measured vent. For a single compressor using as found measurements, you must provide a different leak or vent ID for each compressor source.

(ii) For each leak or vent, report the information specified in paragraphs (p)(2)(ii)(A) through (E) of this section.

(A) Indicate whether the leak or vent is for a single compressor source or manifolded group of compressor sources and whether the emissions from the leak or vent are released to the atmosphere, routed to a flare, combustion (fuel or thermal oxidizer), or vapor recovery.

(B) Indicate whether an as found measurement(s) as identified in § 98.233(p)(2) or (4) was conducted on the leak or vent.

(C) Indicate whether continuous measurements as identified in § 98.233(p)(3) or (5) were conducted on the leak or vent.

(D) Report emissions as specified in paragraphs (p)(2)(ii)(D)(*1*) and (*2*) of this section for the leak or vent. If the leak or vent is routed to flare, combustion, or vapor recovery, you are not required to report emissions under this paragraph.

(*1*) Annual CO_2 emissions, in metric tons CO_2.

(*2*) Annual CH_4 emissions, in metric tons CH_4.

(E) If the leak or vent is routed to flare, combustion, or vapor recovery, report the percentage of time that the respective device was operational when the compressor source emissions were routed to the device.

(3) *As found measurement sample data*. If the measurement methods specified

in § 98.233(p)(2) or (4) are conducted, report the information specified in paragraph (p)(3)(i) of this section. If the calculation specified in § 98.233(p)(6)(ii) is performed, report the information specified in paragraph (p)(3)(ii) of this section.

(i) For each as found measurement performed on a leak or vent, report the information specified in paragraphs (p)(3)(i)(A) through (F) of this section.

(A) Name or ID of leak or vent. Use same leak or vent ID as in paragraph (p)(2)(i)(C) of this section.

(B) Measurement date.

(C) Measurement method. If emissions were not detected when using a screening method, report the screening method. If emissions were detected using a screening method, report only the method subsequently used to measure the volumetric emissions.

(D) Measured flow rate, in standard cubic feet per hour.

(E) For each compressor attached to the leak or vent, report the compressor mode during which the measurement was taken.

(F) If the measurement is for a manifolded group of compressor sources, indicate whether the measurement location is prior to or after comingling with non-compressor emission sources.

(ii) For each compressor mode-source combination where a reporter emission factor as calculated in Equation W–28 was used to calculate emissions in Equation W–27, report the information specified in paragraphs (p)(3)(ii)(A) through (D) of this section

(A) The compressor mode-source combination.

(B) The compressor mode-source combination reporter emission factor, in standard cubic feet per hour ($EF_{s,m}$ in Equation W–28).

(C) The total number of compressors measured in the compressor mode-source combination in the current reporting year and the preceding two reporting years ($Count_m$ in Equation W–28).

(D) Indicate whether the compressor mode-source combination reporter emission factor is facility-specific or based on all of the reporter's applicable facilities.

(4) *Continuous measurement data.* If the measurement methods specified in § 98.233(p)(3) or (5) are conducted, report the information specified in paragraphs (p)(4)(i) through (iv) of this section for each continuous measurement conducted on each leak or vent associated with each compressor source or manifolded group of compressor sources.

(i) Name or ID of leak or vent. Use same leak or vent ID as in paragraph (p)(2)(i)(C) of this section.

(ii) Measured volume of flow during the reporting year, in million standard cubic feet.

(iii) Indicate whether the measured volume of flow during the reporting year includes compressor blowdown emissions as allowed for in § 98.233(p)(3)(ii) and (p)(5)(iii).

(iv) If the measurement is for a manifolded group of compressor sources, indicate whether the measurement location is prior to or after comingling with non-compressor emission sources.

(5) *Onshore petroleum and natural gas production.* Reciprocating compressors in onshore petroleum and natural gas production must report the information specified in paragraphs (p)(5)(i) through (iii) of this section.

(i) Number of reciprocating compressors.

(ii) Annual CO_2 emissions, in metric tons CO_2, from reciprocating compressors.

(iii) Annual CH_4 emissions, in metric tons CH_4, from reciprocating compressors.

(q) *Equipment leak surveys.* If your facility is subject to the requirements of § 98.233(q), then you must report the information specified in paragraphs (q)(1) and (2) of this section. Natural gas distribution facilities with emission sources listed in § 98.232(i)(1) must also report the information specified in paragraph (q)(3) of this section.

(1) You must report the information specified in paragraphs (q)(1)(i) and (ii) of this section.

(i) Except as specified in paragraph (q)(1)(ii) of this section, the number of complete equipment leak surveys performed during the calendar year.

(ii) Natural gas distribution facilities performing equipment leak surveys

across a multiple year leak survey cycle must report the number of years in the leak survey cycle.

(2) You must indicate whether your facility contains any of the component types listed in § 98.232(d)(7), (e)(7), (f)(5), (g)(3), (h)(4), or (i)(1), for your facility's industry segment. For each component type that is located at your facility, you must report the information specified in paragraphs (q)(2)(i) through (v) of this section. If a component type is located at your facility and no leaks were identified from that component, then you must report the information in paragraphs (q)(2)(i) through (v) of this section but report a zero (''0'') for the information required according to paragraphs (q)(2)(iii), (iv), and (v) of this section.

(i) Component type.

(ii) Total number of the surveyed component type that were identified as leaking in the calendar year (''x_p'' in Equation W–30 of this subpart for the component type).

(iii) Average time the surveyed components are assumed to be leaking and operational, in hours (average of ''$T_{p,z}$'' from Equation W–30 of this subpart for the component type).

(iv) Annual CO_2 emissions, in metric tons CO_2, for the component type as calculated using Equation W–30 (for surveyed components only).

(v) Annual CH_4 emissions, in metric tons CH_4, for the component type as calculated using Equation W–30 (for surveyed components only).

(3) Natural gas distribution facilities with emission sources listed in § 98.232(i)(1) must also report the information specified in paragraphs (q)(3)(i) through (viii) and, if applicable, (q)(3)(ix) of this section.

(i) Number of above grade transmission-distribution transfer stations surveyed in the calendar year.

(ii) Number of meter/regulator runs at above grade transmission-distribution transfer stations surveyed in the calendar year (''$Count_{MR,y}$'' from Equation W–31 of this subpart, for the current calendar year).

(iii) Average time that meter/regulator runs surveyed in the calendar year were operational, in hours (average of ''$T_{w,y}$'' from Equation W–31 of this subpart, for the current calendar year).

(iv) Number of above grade transmission-distribution transfer stations surveyed in the current leak survey cycle.

(v) Number of meter/regulator runs at above grade transmission-distribution transfer stations surveyed in current leak survey cycle (sum of ''$Count_{MR,y}$'' from Equation W–31 of this subpart, for all calendar years in the current leak survey cycle).

(vi) Average time that meter/regulator runs surveyed in the current leak survey cycle were operational, in hours (average of ''$T_{w,y}$'' from Equation W–31 of this subpart, for all years included in the leak survey cycle).

(vii) Meter/regulator run CO_2 emission factor based on all surveyed transmission-distribution transfer stations in the current leak survey cycle, in standard cubic feet of CO_2 per operational hour of all meter/regulator runs (''$EF_{s,MR,i}$'' for CO_2 calculated using Equation W–31 of this subpart).

(viii) Meter/regulator run CH_4 emission factor based on all surveyed transmission-distribution transfer stations in the current leak survey cycle, in standard cubic feet of CH_4 per operational hour of all meter/regulator runs (''$EF_{s,MR,i}$'' for CH_4 calculated using Equation W–31 of this subpart).

(ix) If your natural gas distribution facility performs equipment leak surveys across a multiple year leak survey cycle, you must also report:

(A) The total number of meter/regulator runs at above grade transmission-distribution transfer stations at your facility (''$Count_{MR}$'' in Equation W–32B of this subpart).

(B) Average estimated time that each meter/regulator run at above grade transmission-distribution transfer stations was operational in the calendar year, in hours per meter/regulator run (''$T_{w,avg}$'' in Equation W–32B of this subpart).

(C) Annual CO_2 emissions, in metric tons CO_2, for all above grade transmission-distribution transfer stations at your facility.

(D) Annual CH_4 emissions, in metric tons CH_4, for all above grade transmission-distribution transfer stations at your facility.

(r) *Equipment leaks by population count.* If your facility is subject to the requirements of § 98.233(r), then you must report the information specified in paragraphs (r)(1) through (3) of this section, as applicable.

(1) You must indicate whether your facility contains any of the emission source types required to use Equation W–32A of this subpart. You must report the information specified in paragraphs (r)(1)(i) through (v) of this section separately for each emission source type required to use Equation W–32A of this subpart that is located at your facility. Onshore petroleum and natural gas production facilities must report the information specified in paragraphs (r)(1)(i) through (v) of this section separately by component type, service type, and geographic location (*i.e.*, Eastern U.S. or Western U.S.).

(i) Emission source type. Onshore petroleum and natural gas production facilities must report the component type, service type and geographic location.

(ii) Total number of the emission source type at the facility (''$Count_e$'' in Equation W–32A of this subpart).

(iii) Average estimated time that the emission source type was operational in the calendar year, in hours (''T_e'' in Equation W–32A of this subpart).

(iv) Annual CO_2 emissions, in metric tons CO_2, for the emission source type.

(v) Annual CH_4 emissions, in metric tons CH_4, for the emission source type.

(2) Natural gas distribution facilities must also report the information specified in paragraphs (r)(2)(i) through (v) of this section.

(i) Number of above grade transmission-distribution transfer stations at the facility.

(ii) Number of above grade metering-regulating stations that are not transmission-distribution transfer stations at the facility.

(iii) Total number of meter/regulator runs at above grade metering-regulating stations that are not above grade transmission-distribution transfer stations (''$Count_{MR}$'' in Equation W–32B of this subpart).

(iv) Average estimated time that each meter/regulator run at above grade metering-regulating stations that are not above grade transmission-distribution transfer stations was operational in the calendar year, in hours per meter/regulator run (''$T_{w,avg}$'' in Equation W–32B of this subpart).

(v) If your facility has above grade metering-regulating stations that are not above grade transmission-distribution transfer stations and your facility also has above grade transmission-distribution transfer stations, you must also report:

(A) Annual CO_2 emissions, in metric tons CO_2, from above grade metering-regulating stations that are not above grade transmission-distribution transfer stations.

(B) Annual CH_4 emissions, in metric tons CH_4, from above grade metering regulating stations that are not above grade transmission-distribution transfer stations.

(3) Onshore petroleum and natural gas production facilities must also report the information specified in paragraphs (r)(3)(i) and (ii) of this section.

(i) Calculation method used.

(ii) Onshore petroleum and natural gas production facilities must report the information specified in paragraphs (r)(3)(ii)(A) and (B) of this section, for each major equipment type, production type (*i.e.*, natural gas or crude oil), and geographic location combination in Tables W–1B and W–1C of this subpart.

(A) An indication of whether the facility contains the major equipment type.

(B) If the facility does contain the equipment type, the count of the major equipment type.

(s) *Offshore petroleum and natural gas production.* You must report the information specified in paragraphs (s)(1) through (3) of this section for each emission source type listed in the most recent BOEMRE study.

(1) Annual CO_2 emissions, in metric tons CO_2.

(2) Annual CH_4 emissions, in metric tons CH_4.

(3) Annual N_2O emissions, in metric tons N_2O.

(t) [Reserved]

(u) [Reserved]

(v) [Reserved]

(w) *EOR injection pumps.* You must indicate whether CO_2 EOR injection was used at your facility during the calendar year and if any EOR injection

pump blowdowns occurred during the year. If any EOR injection pump blowdowns occurred during the calendar year, then you must report the information specified in paragraphs (w)(1) through (8) of this section for each EOR injection pump system.

(1) Sub-basin ID.

(2) EOR injection pump system identifier.

(3) Pump capacity, in barrels per day.

(4) Total volume of EOR injection pump system equipment chambers, in cubic feet (''V_v'' in Equation W–37 of this subpart).

(5) Number of blowdowns for the EOR injection pump system in the calendar year.

(6) Density of critical phase EOR injection gas, in kilograms per cubic foot (''R_c'' in Equation W–37 of this subpart).

(7) Mass fraction of CO_2 in critical phase EOR injection gas (''GHG_{CO2}'' in Equation W–37 of this subpart).

(8) Annual CO_2 emissions, in metric tons CO_2, from EOR injection pump system blowdowns.

(x) *EOR hydrocarbon liquids.* You must indicate whether hydrocarbon liquids were produced through EOR operations. If hydrocarbon liquids were produced through EOR operations, you must report the information specified in paragraphs (x)(1) through (4) of this section for each sub-basin category with EOR operations.

(1) Sub-basin ID.

(2) Total volume of hydrocarbon liquids produced through EOR operations in the calendar year, in barrels (''V_{hl}'' in Equation W–38 of this subpart).

(3) Average CO_2 retained in hydrocarbon liquids downstream of the storage tank, in metric tons per barrel under standard conditions (''S_{hl}'' in Equation W–38 of this subpart).

(4) Annual CO_2 emissions, in metric tons CO_2, from CO_2 retained in hydrocarbon liquids produced through EOR operations downstream of the storage tank (''$Mass_{CO2}$'' in Equation W–38 of this subpart).

(y) [Reserved]

(z) *Combustion equipment at onshore petroleum and natural gas production facilities and natural gas distribution facilities.* If your facility is required by § 98.232(c)(22) or (i)(7) to report emissions from combustion equipment, then you must indicate whether your facility has any combustion units subject to reporting according to paragraphs (a)(1)(xvii) or (a)(8)(i) of this section. If your facility contains any combustion units subject to reporting according to paragraphs (a)(1)(xvii) or (a)(8)(i) of this section, then you must report the information specified in paragraphs (z)(1) and (2) of this section, as applicable.

(1) Indicate whether the combustion units include: External fuel combustion units with a rated heat capacity less than or equal to 5 million Btu per hour; or, internal fuel combustion units that are not compressor-drivers, with a rated heat capacity less than or equal to 1 mmBtu/hr (or the equivalent of 130 horsepower). If the facility contains external fuel combustion units with a rated heat capacity less than or equal to 5 million Btu per hour or internal fuel combustion units that are not compressor-drivers, with a rated heat capacity less than or equal to 1 million Btu per hour (or the equivalent of 130 horsepower), then you must report the information specified in paragraphs (z)(1)(i) and (ii) of this section for each unit type.

(i) The type of combustion unit.

(ii) The total number of combustion units.

(2) Indicate whether the combustion units include: External fuel combustion units with a rated heat capacity greater than 5 million Btu per hour; internal fuel combustion units that are not compressor-drivers, with a rated heat capacity greater than 1 million Btu per hour (or the equivalent of 130 horsepower); or, internal fuel combustion units of any heat capacity that are compressor-drivers. If your facility contains: External fuel combustion units with a rated heat capacity greater than 5 mmBtu/hr; internal fuel combustion units that are not compressor-drivers, with a rated heat capacity greater than 1 million Btu per hour (or the equivalent of 130 horsepower); or internal fuel combustion units of any heat capacity that are compressor-drivers, then you must report the information specified in paragraphs (z)(2)(i) through (vi) of this section for

each combustion unit type and fuel type combination.

(i) The type of combustion unit.

(ii) The type of fuel combusted.

(iii) The quantity of fuel combusted in the calendar year, in thousand standard cubic feet, gallons, or tons.

(iv) Annual CO_2 emissions, in metric tons CO_2, calculated according to § 98.233(z)(1) and (2).

(v) Annual CH_4 emissions, in metric tons CH_4, calculated according to § 98.233(z)(1) and (2).

(vi) Annual N_2O emissions, in metric tons N_2O, calculated according to § 98.233(z)(1) and (2).

(aa) Each facility must report the information specified in paragraphs (aa)(1) through (9) of this section, for each applicable industry segment, by using best available data. If a quantity required to be reported is zero, you must report zero as the value.

(1) For onshore petroleum and natural gas production, report the data specified in paragraphs (aa)(1)(i) and (ii) of this section.

(i) Report the information specified in paragraphs (aa)(1)(i)(A) through (C) of this section for the basin as a whole.

(A) The quantity of gas produced in the calendar year from wells, in thousand standard cubic feet. This includes gas that is routed to a pipeline, vented or flared, or used in field operations. This does not include gas injected back into reservoirs or shrinkage resulting from lease condensate production.

(B) The quantity of gas produced in the calendar year for sales, in thousand standard cubic feet.

(C) The quantity of crude oil and condensate produced in the calendar year for sales, in barrels.

(ii) Report the information specified in paragraphs (aa)(1)(ii)(A) through (M) of this section for each unique sub-basin category.

(A) State.

(B) County.

(C) Formation type.

(D) The number of producing wells at the end of the calendar year (exclude only those wells permanently taken out of production, *i.e.*, plugged and abandoned) .

(E) The number of producing wells acquired during the calendar year.

(F) The number of producing wells divested during the calendar year.

(G) The number of wells completed during the calendar year.

(H) The number of wells permanently taken out of production (*i.e.*, plugged and abandoned) during the calendar year.

(I) Average mole fraction of CH_4 in produced gas.

(J) Average mole fraction of CO_2 in produced gas.

(K) If an oil sub-basin, report the average GOR of all wells, in thousand standard cubic feet per barrel.

(L) If an oil sub-basin, report the average API gravity of all wells.

(M) If an oil sub-basin, report average low pressure separator pressure, in pounds per square inch gauge.

(2) For offshore production, report the quantities specified in paragraphs (aa)(2)(i) and (ii) of this section.

(i) The total quantity of gas handled at the offshore platform in the calendar year, in thousand standard cubic feet, including production volumes and volumes transferred via pipeline from another location.

(ii) The total quantity of oil and condensate handled at the offshore platform in the calendar year, in barrels, including production volumes and volumes transferred via pipeline from another location.

(3) For natural gas processing, report the information specified in paragraphs (aa)(3)(i) through (vii) of this section.

(i) The quantity of natural gas received at the gas processing plant in the calendar year, in thousand standard cubic feet.

(ii) The quantity of processed (residue) gas leaving the gas processing plant in the calendar year, in thousand standard cubic feet.

(iii) The cumulative quantity of all NGLs (bulk and fractionated) received at the gas processing plant in the calendar year, in barrels.

(iv) The cumulative quantity of all NGLs (bulk and fractionated) leaving the gas processing plant in the calendar year, in barrels.

(v) Average mole fraction of CH_4 in natural gas received.

(vi) Average mole fraction of CO_2 in natural gas received.

(vii) Indicate whether the facility fractionates NGLs.

(4) For natural gas transmission compression, report the quantity specified in paragraphs (aa)(4)(i) through (v) of this section.

(i) The quantity of gas transported through the compressor station in the calendar year, in thousand standard cubic feet.

(ii) Number of compressors.

(iii) Total compressor power rating of all compressors combined, in horsepower.

(iv) Average upstream pipeline pressure, in pounds per square inch gauge.

(v) Average downstream pipeline pressure, in pounds per square inch gauge.

(5) For underground natural gas storage, report the quantities specified in paragraphs (aa)(5)(i) through (iii) of this section.

(i) The quantity of gas injected into storage in the calendar year, in thousand standard cubic feet.

(ii) The quantity of gas withdrawn from storage in the calendar year, in thousand standard cubic feet.

(iii) Total storage capacity, in thousand standard cubic feet.

(6) For LNG import equipment, report the quantity of LNG imported in the calendar year, in thousand standard cubic feet.

(7) For LNG export equipment, report the quantity of LNG exported in the calendar year, in thousand standard cubic feet.

(8) For LNG storage, report the quantities specified in paragraphs (aa)(8)(i) through (iii) of this section.

(i) The quantity of LNG added into storage in the calendar year, in thousand standard cubic feet.

(ii) The quantity of LNG withdrawn from storage in the calendar year, in thousand standard cubic feet.

(iii) Total storage capacity, in thousand standard cubic feet.

(9) For natural gas distribution, report the quantities specified in paragraphs (aa)(9)(i) through (vii) of this section.

(i) The quantity of natural gas received at all custody transfer stations in the calendar year, in thousand standard cubic feet. This value may include meter corrections, but only for the calendar year covered by the annual report.

(ii) The quantity of natural gas withdrawn from in-system storage in the calendar year, in thousand standard cubic feet.

(iii) The quantity of natural gas added to in-system storage in the calendar year, in thousand standard cubic feet.

(iv) The quantity of natural gas delivered to end users, in thousand standard cubic feet. This value does not include stolen gas, or gas that is otherwise unaccounted for.

(v) The quantity of natural gas transferred to third parties such as other LDCs or pipelines, in thousand standard cubic feet. This value does not include stolen gas, or gas that is otherwise unaccounted for.

(vi) The quantity of natural gas consumed by the LDC for operational purposes, in thousand standard cubic feet.

(vii) The estimated quantity of gas stolen in the calendar year, in thousand standard cubic feet.

(bb) For any missing data procedures used, report the information in § 98.3(c)(8) except as provided in paragraphs (bb)(1) and (2) of this section.

(1) For quarterly measurements, report the total number of quarters that a missing data procedure was used for each data element rather than the total number of hours.

(2) For annual or biannual (once every two years) measurements, you do not need to report the number of hours that a missing data procedure was used for each data element.

(cc) If you elect to delay reporting the information in paragraph (g)(5)(i), (g)(5)(ii), (h)(1)(iv), (h)(2)(iv), (j)(1)(iii), (j)(2)(i)(A), (l)(1)(iv), (l)(2)(iv), (l)(3)(iii), (l)(4)(iii), (m)(5), or (m)(6) of this section, you must report the information required in that paragraph no later than the date 2 years following the date specified in § 98.3(b) introductory text.

[79 FR 70411, Nov. 24, 2014]

§ 98.237 Records that must be retained.

Monitoring Plans, as described in § 98.3(g)(5), must be completed by April 1, 2011. In addition to the information

required by § 98.3(g), you must retain the following records:

(a) Dates on which measurements were conducted.

(b) Results of all emissions detected and measurements.

(c) Calibration reports for detection and measurement instruments used.

(d) Inputs and outputs of calculations or emissions computer model runs used for engineering estimation of emissions.

(e) The records required under § 98.3(g)(2)(i) shall include an explanation of how company records, engineering estimation, or best available information are used to calculate each applicable parameter under this subpart.

(f) For each time a missing data procedure was used, keep a record listing the emission source type, a description of the circumstance that resulted in the need to use missing data procedures, the missing data provisions in § 98.235 that apply, the calculation or analysis used to develop the substitute value, and the substitute value.

[75 FR 74488, Nov. 30, 2010, as amended at 76 FR 80590, Dec. 23, 2011; 79 FR 70424, Nov. 25, 2014]

§ 98.238 Definitions.

Except as provided in this section, all terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Acid gas means hydrogen sulfide (H_2S) and/or carbon dioxide (CO_2) contaminants that are separated from sour natural gas by an acid gas removal unit.

Acid gas removal unit (AGR) means a process unit that separates hydrogen sulfide and/or carbon dioxide from sour natural gas using liquid or solid absorbents or membrane separators.

Acid gas removal vent emissions mean the acid gas separated from the acid gas absorbing medium (*e.g.*, an amine solution) and released with methane and other light hydrocarbons to the atmosphere or a flare.

Associated gas venting or flaring means the venting or flaring of natural gas which originates at wellheads that also produce hydrocarbon liquids and occurs either in a discrete gaseous phase at the wellhead or is released from the liquid hydrocarbon phase by separation. This does not include venting or flaring resulting from activities that are reported elsewhere, including tank venting, well completions, and well workovers.

Associated with a single well-pad means associated with the hydrocarbon stream as produced from one or more wells located on that single well-pad. The association ends where the stream from a single well-pad is combined with streams from one or more additional single well-pads, where the point of combination is located off that single well-pad. Onshore production storage tanks on or associated with a single well-pad are considered a part of the onshore production facility.

Basin means geologic provinces as defined by the American Association of Petroleum Geologists (AAPG) Geologic Note: AAPG–CSD Geologic Provinces Code Map: AAPG Bulletin, Prepared by Richard F. Meyer, Laure G. Wallace, and Fred J. Wagner, Jr., Volume 75, Number 10 (October 1991) (incorporated by reference, see § 98.7) and the Alaska Geological Province Boundary Map, Compiled by the American Association of Petroleum Geologists Committee on Statistics of Drilling in Cooperation with the USGS, 1978 (incorporated by reference, see § 98.7).

Compressor means any machine for raising the pressure of a natural gas or CO_2 by drawing in low pressure natural gas or CO_2 and discharging significantly higher pressure natural gas or CO_2.

Compressor mode means the operational and pressurized status of a compressor. For a centrifugal compressor, ''mode'' refers to either operating-mode or not-operating-depressurized-mode. For a reciprocating compressor, ''mode'' refers to either: Operating-mode, standby-pressurized-mode, or not-operating-depressurized-mode.

Compressor source means the source of certain venting or leaking emissions from a centrifugal or reciprocating compressor. For centrifugal compressors, ''source'' refers to blowdown valve leakage through the blowdown vent, unit isolation valve leakage through an open blowdown vent without blind flanges, and wet seal oil degassing vents. For reciprocating compressors,

''source'' refers to blowdown valve leakage through the blowdown vent, unit isolation valve leakage through an open blowdown vent without blind flanges, and rod packing emissions.

Condensate means hydrocarbon and other liquid, including both water and hydrocarbon liquids, separated from natural gas that condenses due to changes in the temperature, pressure, or both, and remains liquid at storage conditions.

Delineation well means a well drilled in order to determine the boundary of a field or producing reservoir.

Distribution pipeline means a pipeline that is designated as such by the Pipeline and Hazardous Material Safety Administration (PHMSA) 49 CFR 192.3.

Engineering estimation, for purposes of subpart W, means an estimate of emissions based on engineering principles applied to measured and/or approximated physical parameters such as dimensions of containment, actual pressures, actual temperatures, and compositions.

Enhanced oil recovery (EOR) means the use of certain methods such as water flooding or gas injection into existing wells to increase the recovery of crude oil from a reservoir. In the context of this subpart, EOR applies to injection of critical phase or immiscible carbon dioxide into a crude oil reservoir to enhance the recovery of oil.

External combustion means fired combustion in which the flame and products of combustion are separated from contact with the process fluid to which the energy is delivered. Process fluids may be air, hot water, or hydrocarbons. External combustion equipment may include fired heaters, industrial boilers, and commercial and domestic combustion units.

Facility with respect to natural gas distribution for purposes of reporting under this subpart and for the corresponding subpart A requirements means the collection of all distribution pipelines and metering-regulating stations that are operated by a Local Distribution Company (LDC) within a single state that is regulated as a separate operating company by a public utility commission or that are operated as an independent municipally-owned distribution system.

Facility with respect to natural gas distribution for purposes of reporting under this subpart and for the corresponding subpart A requirements means the collection of all distribution pipelines and metering-regulating stations that are operated by a Local Distribution Company (LDC) within a single state that is regulated as a separate operating company by a public utility commission or that are operated as an independent municipally-owned distribution system.

Facility with respect to onshore petroleum and natural gas production for purposes of reporting under this subpart and for the corresponding subpart A requirements means all petroleum or natural gas equipment on a single well-pad or associated with a single well-pad and CO_2 EOR operations that are under common ownership or common control including leased, rented, or contracted activities by an onshore petroleum and natural gas production owner or operator and that are located in a single hydrocarbon basin as defined in § 98.238. Where a person or entity owns or operates more than one well in a basin, then all onshore petroleum and natural gas production equipment associated with all wells that the person or entity owns or operates in the basin would be considered one facility.

Farm Taps are pressure regulation stations that deliver gas directly from transmission pipelines to generally rural customers. In some cases a nearby LDC may handle the billing of the gas to the customer(s).

Field means oil and gas fields identified in the United States as defined by the Energy Information Administration Oil and Gas Field Code Master List 2008, DOE/EIA 0370(08) (incorporated by reference, see § 98.7).

Flare, for the purposes of subpart W, means a combustion device, whether at ground level or elevated, that uses an open or closed flame to combust waste gases without energy recovery.

Flare combustion efficiency means the fraction of hydrocarbon gas, on a volume or mole basis, that is combusted at the flare burner tip.

Flare stack emissions means CO_2 and N_2O from partial combustion of hydrocarbon gas sent to a flare plus CH_4

emissions resulting from the incomplete combustion of hydrocarbon gas in flares.

Forced extraction of natural gas liquids means removal of ethane or higher carbon number hydrocarbons existing in the vapor phase in natural gas, by removing ethane or heavier hydrocarbons derived from natural gas into natural gas liquids by means of a forced extraction process. Forced extraction processes include but are not limited to refrigeration, absorption (lean oil), cryogenic expander, and combinations of these processes. Forced extraction does not include in and of itself; natural gas dehydration, or the collection or gravity separation of water or hydrocarbon liquids from natural gas at ambient temperature or heated above ambient temperatures, or the condensation of water or hydrocarbon liquids through passive reduction in pressure or temperature, or portable dewpoint suppression skids.

Horizontal well means a well bore that has a planned deviation from primarily vertical to a primarily horizontal inclination or declination tracking in parallel with and through the target formation.

Internal combustion means the combustion of a fuel that occurs with an oxidizer (usually air) in a combustion chamber. In an internal combustion engine the expansion of the high-temperature and –pressure gases produced by combustion applies direct force to a component of the engine, such as pistons, turbine blades, or a nozzle. This force moves the component over a distance, generating useful mechanical energy. Internal combustion equipment may include gasoline and diesel industrial engines, natural gas-fired reciprocating engines, and gas turbines.

Liquefied natural gas (LNG) means natural gas (primarily methane) that has been liquefied by reducing its temperature to -260 degrees Fahrenheit at atmospheric pressure.

LNG boil-off gas means natural gas in the gaseous phase that vents from LNG storage tanks due to ambient heat leakage through the tank insulation and heat energy dissipated in the LNG by internal pumps.

Manifolded compressor source means a compressor source (as defined in this section) that is manifolded to a common vent that routes gas from multiple compressors.

Manifolded group of compressor sources means a collection of any combination of manifolded compressor sources (as defined in this section) that are manifolded to a common vent.

Meter/regulator run means a series of components used in regulating pressure or metering natural gas flow, or both, in the natural gas distribution industry segment. At least one meter, at least one regulator, or any combination of both on a single run of piping is considered one meter/regulator run.

Metering-regulating station means a station that meters the flowrate, regulates the pressure, or both, of natural gas in a natural gas distribution facility. This does not include customer meters, customer regulators, or farm taps.

Natural gas means a naturally occurring mixture or process derivative of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the earth's surface, of which its constituents include, but are not limited to, methane, heavier hydrocarbons and carbon dioxide. Natural gas may be field quality, pipeline quality, or process gas.

Offshore means seaward of the terrestrial borders of the United States, including waters subject to the ebb and flow of the tide, as well as adjacent bays, lakes or other normally standing waters, and extending to the outer boundaries of the jurisdiction and control of the United States under the Outer Continental Shelf Lands Act.

Onshore petroleum and natural gas production owner or operator means the person or entity who holds the permit to operate petroleum and natural gas wells on the drilling permit or an operating permit where no drilling permit is issued, which operates an onshore petroleum and/or natural gas production facility (as described in § 98.230(a)(2). Where petroleum and natural gas wells operate without a drilling or operating permit, the person or entity that pays the State or Federal business income taxes is considered the owner or operator.

Operating pressure means the containment pressure that characterizes the

normal state of gas or liquid inside a particular process, pipeline, vessel or tank.

Pressure groups as applicable to each sub-basin are defined as follows: Less than or equal to 25 psig; greater than 25 psig and less than or equal to 60 psig; greater than 60 psig and less than or equal to 110 psig; greater than 110 psig and less than or equal to 200 psig; and greater than 200 psig. The pressure in the context of pressure groups is either the well shut-in pressure; well casing pressure; or you may use the casing-to-tubing pressure of one well from the same sub-basin multiplied by the tubing pressure for each well in the sub-basin.

Pump means a device used to raise pressure, drive, or increase flow of liquid streams in closed or open conduits.

Pump seals means any seal on a pump drive shaft used to keep methane and/or carbon dioxide containing light liquids from escaping the inside of a pump case to the atmosphere.

Pump seal emissions means hydrocarbon gas released from the seal face between the pump internal chamber and the atmosphere.

Reduced emissions completion means a well completion following hydraulic fracturing where gas flowback emissions from the gas outlet of the separator that are otherwise vented are captured, cleaned, and routed to the flow line or collection system, re-injected into the well or another well, used as an on-site fuel source, or used for other useful purpose that a purchased fuel or raw material would serve, with de minimis direct venting to the atmosphere. Short periods of flaring during a reduced emissions completion may occur.

Reduced emissions workover means a well workover with hydraulic fracturing (*i.e.*, refracturing) where gas flowback emissions from the gas outlet of the separator that are otherwise vented are captured, cleaned, and routed to the flow line or collection system, re-injected into the well or another well, used as an on-site fuel source, or used for other useful purpose that a purchased fuel or raw material would serve, with de minimis direct venting to the atmosphere. Short periods of flaring during a reduced emissions workover may occur.

Reservoir means a porous and permeable underground natural formation containing significant quantities of hydrocarbon liquids and/or gases.

Residue Gas and *Residue Gas Compression* mean, respectively, production lease natural gas from which gas liquid products and, in some cases, non-hydrocarbon components have been extracted such that it meets the specifications set by a pipeline transmission company, and/or a distribution company; and the compressors operated by the processing facility, whether inside the processing facility boundary fence or outside the fence-line, that deliver the residue gas from the processing facility to a transmission pipeline.

Separator means a vessel in which streams of multiple phases are gravity separated into individual streams of single phase.

Sub-basin category, for onshore natural gas production, means a subdivision of a basin into the unique combination of wells with the surface coordinates within the boundaries of an individual county and subsurface completion in one or more of each of the following five formation types: Oil, high permeability gas, shale gas, coal seam, or other tight gas reservoir rock. The distinction between high permeability gas and tight gas reservoirs shall be designated as follows: High permeability gas reservoirs with >0.1 millidarcy permeability, and tight gas reservoirs with ≤0.1 millidarcy permeability. Permeability for a reservoir type shall be determined by engineering estimate. Wells that produce only from high permeability gas, shale gas, coal seam, or other tight gas reservoir rock are considered gas wells; gas wells producing from more than one of these formation types shall be classified into only one type based on the formation with the most contribution to production as determined by engineering knowledge. All wells that produce hydrocarbon liquids (with or without gas) and do not meet the definition of a gas well in this sub-basin category definition are considered to be in the oil formation. All

emission sources that handle condensate from gas wells in high permeability gas, shale gas, or tight gas reservoir rock formations are considered to be in the formation that the gas well belongs to and not in the oil formation.

Transmission-distribution (T–D) transfer station means a metering-regulating station where a local distribution company takes part or all of the natural gas from a transmission pipeline and puts it into a distribution pipeline.

Transmission pipeline means a Federal Energy Regulatory Commission rate-regulated Interstate pipeline, a state rate-regulated Intrastate pipeline, or a pipeline that falls under the ''Hinshaw Exemption'' as referenced in section 1(c) of the Natural Gas Act, 15 U.S.C. 717–717 (w)(1994).

Tubing diameter groups are defined as follows: Outer diameter less than or equal to 1 inch; outer diameter greater than 1 inch and less than 2.375 inch; and outer diameter greater than or equal to 2.375 inch.

Tubing systems means piping equal to or less than one half inch diameter as per nominal pipe size.

Turbine meter means a flow meter in which a gas or liquid flow rate through the calibrated tube spins a turbine from which the spin rate is detected and calibrated to measure the fluid flow rate.

Vented emissions means intentional or designed releases of CH_4 or CO_2 containing natural gas or hydrocarbon gas (not including stationary combustion flue gas), including process designed flow to the atmosphere through seals or vent pipes, equipment blowdown for maintenance, and direct venting of gas used to power equipment (such as pneumatic devices).

Vertical well means a well bore that is primarily vertical but has some unintentional deviation or one or more intentional deviations to enter one or more subsurface targets that are offset horizontally from the surface location, intercepting the targets either vertically or at an angle.

Well testing venting and flaring means venting and/or flaring of natural gas at the time the production rate of a well is determined for regulatory, commercial, or technical purposes. If well testing is conducted immediately after well completion or workover, then it is considered part of well completion or workover.

Wildcat well means a well outside known fields or the first well drilled in an oil or gas field where no other oil and gas production exists.

[75 FR 74488, Nov. 30, 2010, as amended at 76 FR 80590, Dec. 23, 2011; 79 FR 63794, Oct. 24, 2014; 79 FR 70424, Nov. 25, 2014]

TABLE W–1A TO SUBPART W OF PART 98—DEFAULT WHOLE GAS EMISSION FACTORS FOR ONSHORE PETROLEUM AND NATURAL GAS PRODUCTION

Onshore petroleum and natural gas production	Emission factor (scf/hour/component)
Eastern U.S.	
Population Emission Factors—All Components, Gas Service [1]	
Valve	0.027
Connector	0.003
Open-ended Line	0.061
Pressure Relief Valve	0.040
Low Continuous Bleed Pneumatic Device Vents [2]	1.39
High Continuous Bleed Pneumatic Device Vents [2]	37.3
Intermittent Bleed Pneumatic Device Vents [2]	13.5
Pneumatic Pumps [3]	13.3
Population Emission Factors—All Components, Light Crude Service [4]	
Valve	0.05
Flange	0.003
Connector	0.007
Open-ended Line	0.05
Pump	0.01
Other [5]	0.30
Population Emission Factors—All Components, Heavy Crude Service [6]	
Valve	0.0005
Flange	0.0009
Connector (other)	0.0003
Open-ended Line	0.006
Other [5]	0.003
Western U.S.	
Population Emission Factors—All Components, Gas Service [1]	
Valve	0.121
Connector	0.017
Open-ended Line	0.031
Pressure Relief Valve	0.193
Low Continuous Bleed Pneumatic Device Vents [2]	1.39
High Continuous Bleed Pneumatic Device Vents [2]	37.3
Intermittent Bleed Pneumatic Device Vents [2]	13.5
Pneumatic Pumps [3]	13.3

Onshore petroleum and natural gas production	Emission factor (scf/hour/component)
Population Emission Factors—All Components, Light Crude Service [4]	
Valve	0.05
Flange	0.003
Connector (other)	0.007
Open-ended Line	0.05
Pump	0.01
Other [5]	0.30
Population Emission Factors—All Components, Heavy Crude Service [6]	
Valve	0.0005
Flange	0.0009
Connector (other)	0.0003
Open-ended Line	0.006
Other [5]	0.003

[1] For multi-phase flow that includes gas, use the gas service emissions factors.

[2] Emission Factor is in units of ''scf/hour/device.''

[3] Emission Factor is in units of ''scf/hour/pump.''

[4] Hydrocarbon liquids greater than or equal to 20°API are considered ''light crude.''

[5] ''Others'' category includes instruments, loading arms, pressure relief valves, stuffing boxes, compressor seals, dump lever arms, and vents.

[6] Hydrocarbon liquids less than 20°API are considered ''heavy crude.''

[77 FR 51494, Aug. 24, 2012]

Table W–1B to Subpart W of Part 98—Default Average Component Counts for Major Onshore Natural Gas Production Equipment

Major equipment	Valves	Connectors	Open-ended lines	Pressure relief valves
Eastern U.S.				
Wellheads	8	38	0.5	0
Separators	1	6	0	0
Meters/piping	12	45	0	0
Compressors	12	57	0	0
In-line heaters	14	65	2	1
Dehydrators	24	90	2	2
Western U.S.				
Wellheads	11	36	1	0
Separators	34	106	6	2
Meters/piping	14	51	1	1
Compressors	73	179	3	4
In-line heaters	14	65	2	1
Dehydrators	24	90	2	2

Table W–1C to Subpart W of Part 98—Default Average Component Counts For Major Crude Oil Production Equipment

Major equipment	Valves	Flanges	Connectors	Open-ended lines	Other components
Eastern U.S.					
Wellhead	5	10	4	0	1
Separator	6	12	10	0	0
Heater-treater	8	12	20	0	0
Header	5	10	4	0	0
Western U.S.					
Wellhead	5	10	4	0	1
Separator	6	12	10	0	0
Heater-treater	8	12	20	0	0
Header	5	10	4	0	0

Table W–1D to Subpart W of Part 98—Designation Of Eastern And Western U.S.

Eastern U.S.	Western U.S.
Connecticut	Alabama
Delaware	Alaska
Florida	Arizona
Georgia	Arkansas

Eastern U.S.	Western U.S.
Illinois	California
Indiana	Colorado
Kentucky	Hawaii
Maine	Idaho
Maryland	Iowa
Massachusetts	Kansas
Michigan	Louisiana
New Hampshire	Minnesota
New Jersey	Mississippi
New York	Missouri
North Carolina	Montana
Ohio	Nebraska
Pennsylvania	Nevada
Rhode Island	New Mexico
South Carolina	North Dakota
Tennessee	Oklahoma
Vermont	Oregon
Virginia	South Dakota
West Virginia	Texas
Wisconsin	Utah
	Washington
	Wyoming

TABLE W–2 TO SUBPART W OF PART 98—DEFAULT TOTAL HYDROCARBON EMISSION FACTORS FOR ONSHORE NATURAL GAS PROCESSING

Onshore natural gas processing plants	Emission factor (scf/hour/component)
Leaker Emission Factors—Compressor Components, Gas Service	
Valve [1]	14.84
Connector	5.59
Open-Ended Line	17.27
Pressure Relief Valve	39.66
Meter	19.33
Leaker Emission Factors—Non-Compressor Components, Gas Service	
Valve [1]	6.42
Connector	5.71
Open-Ended Line	11.27
Pressure Relief Valve	2.01
Meter	2.93

[1] Valves include control valves, block valves and regulator valves.

[76 FR 80592, Dec. 23, 2011]

TABLE W–3 TO SUBPART W OF PART 98—DEFAULT TOTAL HYDROCARBON EMISSION FACTORS FOR ONSHORE NATURAL GAS TRANSMISSION COMPRESSION

Onshore natural gas transmission compression	Emission factor (scf/hour/component)
Leaker Emission Factors—Compressor Components, Gas Service	
Valve [1]	14.84
Connector	5.59
Open-Ended Line	17.27
Pressure Relief Valve	39.66
Meter	19.33
Leaker Emission Factors—Non-Compressor Components, Gas Service	
Valve [1]	6.42
Connector	5.71
Open-Ended Line	11.27
Pressure Relief Valve	2.01
Meter	2.93
Population Emission Factors—Gas Service	
Low Continuous Bleed Pneumatic Device Vents [2]	1.37
High Continuous Bleed Pneumatic Device Vents [2]	18.20
Intermittent Bleed Pneumatic Device Vents [2]	2.35

[1] Valves include control valves, block valves and regulator valves.
[2] Emission Factor is in units of ''scf/hour/device.''

[76 FR 80593, Dec. 23, 2011]

TABLE W–4 TO SUBPART W OF PART 98—DEFAULT TOTAL HYDROCARBON EMISSION FACTORS FOR UNDERGROUND NATURAL GAS STORAGE

Underground natural gas storage	Emission factor (scf/hour/component)
Leaker Emission Factors—Storage Station, Gas Service	
Valve [1]	14.84
Connector	5.59
Open-Ended Line	17.27
Pressure Relief Valve	39.66
Meter	19.33
Population Emission Factors—Storage Wellheads, Gas Service	
Connector	0.01
Valve	0.1
Pressure Relief Valve	0.17
Open Ended Line	0.03
Population Emission Factors—Other Components, Gas Service	
Low Continuous Bleed Pneumatic Device Vents [2]	1.37
High Continuous Bleed Pneumatic Device Vents [2]	18.20
Intermittent Bleed Pneumatic Device Vents [2]	2.35

[1] Valves include control valves, block valves and regulator valves.
[2] Emission Factor is in units of "scf/hour/device."

[76 FR 80593, Dec. 23, 2011]

TABLE W–5 TO SUBPART W OF PART 98—DEFAULT METHANE EMISSION FACTORS FOR LIQUEFIED NATURAL GAS (LNG) STORAGE

LNG storage	Emission factor (scf/hour/component)
Leaker Emission Factors—LNG Storage Components, LNG Service	
Valve	1.19
Pump Seal	4.00
Connector	0.34
Other [1]	1.77
Population Emission Factors—LNG Storage Compressor, Gas Service	
Vapor Recovery Compressor [2]	4.17

[1] "Other" equipment type should be applied for any equipment type other than connectors, pumps, or valves.
[2] Emission Factor is in units of "scf/hour/device."

[76 FR80594, Dec. 23, 2011, as amended at 77 FR 51495, Aug. 24, 2012]

TABLE W–6 TO SUBPART W OF PART 98—DEFAULT METHANE EMISSION FACTORS FOR LNG IMPORT AND EXPORT EQUIPMENT

LNG import and export equipment	Emission factor (scf/hour/component)
Leaker Emission Factors—LNG Terminals Components, LNG Service	
Valve	1.19
Pump Seal	4.00
Connector	0.34
Other [1]	1.77
Population Emission Factors—LNG Terminals Compressor, Gas Service	
Vapor Recovery Compressor [2]	4.17

[1] "Other" equipment type should be applied for any equipment type other than connectors, pumps, or valves.
[2] Emission Factors is in units of "scf/hour/compressor."

[76 FR 80594, Dec. 23, 2011]

TABLE W–7 TO SUBPART W OF PART 98—DEFAULT METHANE EMISSION FACTORS FOR NATURAL GAS DISTRIBUTION

Natural gas distribution	Emission factor (scf/hour/component)
Leaker Emission Factors—Transmission-Distribution Transfer Station [1] Components, Gas Service	
Connector	1.69
Block Valve	0.557
Control Valve	9.34
Pressure Relief Valve	0.27
Orifice Meter	0.212
Regulator	0.772
Open-ended Line	26.131
Population Emission Factors—Below Grade Metering-Regulating station [1] Components, Gas Service [2]	
Below Grade M&R Station, Inlet Pressure >300 psig	1.30
Below Grade M&R Station, Inlet Pressure 100 to 300 psig	0.20
Below Grade M&R Station, Inlet Pressure <100 psig	0.10
Population Emission Factors—Distribution Mains, Gas Service [3]	
Unprotected Steel	12.58
Protected Steel	0.35
Plastic	1.13
Cast Iron	27.25
Population Emission Factors—Distribution Services, Gas Service [4]	
Unprotected Steel	0.19
Protected Steel	0.02
Plastic	0.001
Copper	0.03

[1] Excluding customer meters.
[2] Emission Factor is in units of "scf/hour/station."
[3] Emission Factor is in units of "scf/hour/mile."
[4] Emission Factor is in units of "scf/hour/number of services."

[76 FR 80594, Dec. 23, 2011]

Subpart X—Petrochemical Production

§ 98.240 Definition of the source category.

(a) The petrochemical production source category consists of all processes that produce acrylonitrile, carbon black, ethylene, ethylene dichloride, ethylene oxide, or methanol, except as specified in paragraphs (b) through (g) of this section. The source category includes processes that produce the petrochemical as an intermediate in the on-site production of other chemicals as well as processes that produce the petrochemical as an end product for sale or shipment off site.

(b) A process that produces a petrochemical as a byproduct is not part of the petrochemical production source category.

(c) A facility that makes methanol, hydrogen, and/or ammonia from synthesis gas is part of the petrochemical source category if the annual mass of methanol produced exceeds the individual annual mass production levels of both hydrogen recovered as product and ammonia. The facility is part of subpart P of this part (Hydrogen Production) if the annual mass of hydrogen recovered as product exceeds the individual annual mass production levels of both methanol and ammonia. The facility is part of subpart G of this part (Ammonia Manufacturing) if the annual mass of ammonia produced exceeds the individual annual mass production levels of both hydrogen recovered as product and methanol.

(d) A direct chlorination process that is operated independently of an oxychlorination process to produce ethylene dichloride is not part of the petrochemical production source category.

(e) A process that produces bone black is not part of the petrochemical source category.

(f) A process that produces a petrochemical from bio-based feedstock is not part of the petrochemical production source category.

(g) A process that solely distills or recycles waste solvent that contains a petrochemical is not part of the petrochemical production source category.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79157, Dec. 17, 2010; 76 FR 80590, Dec. 23, 2011]

§ 98.241 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a petrochemical process as specified in § 98.240, and the facility meets the requirements of either § 98.2(a)(1) or (2).

§ 98.242 GHGs to report.

You must report the information in paragraphs (a) through (c) of this section:

(a) CO_2 CH_4, and N_2O process emissions from each petrochemical process unit. Process emissions include CO_2 generated by reaction in the process and by combustion of process off-gas in stationary combustion units and flares.

(1) If you comply with § 98.243(b) or (d), report under this subpart the calculated CO_2, CH_4, and N_2O emissions for each stationary combustion source and flare that burns any amount of petrochemical process off-gas. If you comply with § 98.243(b), also report under this subpart the measured CO_2 emissions from process vents routed to stacks that are not associated with stationary combustion units.

(2) If you comply with § 98.243(c), report under this subpart the calculated CO_2 emissions for each petrochemical process unit.

(b) CO_2, CH_4, and N_2O combustion emissions from stationary combustion units.

(1) If you comply with § 98.243(b) or (d), report these emissions from stationary combustion units that are associated with petrochemical process units and burn only supplemental fuel under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

(2) If you comply with § 98.243(c), report CO_2, CH_4, and N_2O combustion emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C for all fuels, except emissions from burning petrochemical process off-gas in any combustion unit, including units that are not part of the petrochemical process unit, are not to be reported under subpart C of this part. Determine the applicable Tier in subpart C of this part (General Stationary Fuel Combustion Sources) based on the maximum rated heat input capacity of the stationary combustion source.

(c) CO_2 captured. You must report the mass of CO_2 captured under, subpart PP of this part (Suppliers of Carbon Dioxide (CO_2) by following the requirements of subpart PP.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79157, Dec. 17, 2010; 78 FR 71960, Nov. 29, 2013]

§ 98.243 Calculating GHG emissions.

(a) If you route all process vent emissions and emissions from combustion of process off-gas to one or more stacks and use CEMS on each stack to measure CO_2 emissions (except flare stacks), then you must determine process-based GHG emissions in accordance with paragraph (b) of this section. Otherwise, determine process-based GHG emissions in accordance with the procedures specified in paragraph (c) or (d) of this section.

(b) *Continuous emission monitoring system (CEMS).* Route all process vent emissions and emissions from stationary combustion units that burn any amount of process off-gas to one or more stacks and determine GHG emissions as specified in paragraphs (b)(1) through (3) of this section.

(1) Determine CO_2 emissions from each stack (except flare stacks) according to the Tier 4 Calculation Methodology requirements in subpart C of this part.

(2) For each stack (except flare stacks) that includes emissions from combustion of petrochemical process off-gas, calculate CH_4 and N_2O emissions in accordance with subpart C of this part (use Equation C–10 and the ''fuel gas'' emission factors in Table C–2 of subpart C of this part).

(3) For each flare, calculate CO_2, CH_4, and N_2O emissions using the methodology specified in § 98.253(b)(1) through (3).

(c) *Mass balance for each petrochemical process unit.* Calculate the emissions of CO_2 from each process unit, for each calendar month as described in paragraphs (c)(1) through (c)(5) of this section.

(1) For each gaseous and liquid feedstock and product, measure the volume or mass used or produced each calendar month with a flow meter by following the procedures specified in § 98.244(b)(2). Alternatively, for liquids, you may calculate the volume used or collected in each month based on measurements of the liquid level in a storage tank at least once per month (and just prior to each change in direction of the level of the liquid) following the procedures specified in § 98.244(b)(3). Fuels used for combustion purposes are not considered to be feedstocks.

(2) For each solid feedstock and product, measure the mass used or produced each calendar month by following the procedures specified in § 98.244(b)(1).

(3) Collect a sample of each feedstock and product at least once per month and determine the carbon content of each sample according to the procedures of § 98.244(b)(4). If multiple valid carbon content measurements are made during the monthly measurement period, average them arithmetically. However, if a particular liquid or solid feedstock is delivered in lots, and if multiple deliveries of the same feedstock are received from the same supply source in a given calendar month, only one representative sample is required. Alternatively, you may use the results of analyses conducted by a feedstock supplier, or product customer, provided the sampling and analysis is conducted at least once per month using any of the procedures specified in § 98.244(b)(4).

(4) If you determine that the monthly average concentration of a specific compound in a feedstock or product is greater than 99.5 percent by volume or mass, then as an alternative to the sampling and analysis specified in paragraph (c)(3) of this section, you may determine carbon content in accordance with paragraphs (c)(4)(i) through (iii) of this section.

(i) Calculate the carbon content assuming 100 percent of that feedstock or product is the specific compound.

(ii) Maintain records of any determination made in accordance with this paragraph (c)(4) along with all supporting data, calculations, and other information.

(iii) Reevaluate determinations made under this paragraph (c)(4) after any process change that affects the feedstock or product composition. Keep records of the process change and the corresponding composition determinations. If the feedstock or product composition changes so that the average monthly concentration falls below 99.5 percent, you are no longer permitted to use this alternative method.

(5) Calculate the CO_2 mass emissions for each petrochemical process unit using Equations X–1 through X–4 of this section.

(i) *Gaseous feedstocks and products.* Use Equation X–1 of this section to calculate the net annual carbon input or output from gaseous feedstocks and products. Note that the result will be a negative value if there are no gaseous feedstocks in the process but there are gaseous products.

$$C_g = \sum_{n=1}^{12}\left[\sum_{i=1}^{j\,or\,k}\left[\left(F_{gf}\right)_{i,n} * \left(CC_{gf}\right)_{i,n} * \frac{\left(MW_f\right)_{i,n}}{MVC} - \left(P_{gp}\right)_{i,n} * \left(CC_{gp}\right)_{i,n} * \frac{\left(MW_p\right)_{i,n}}{MVC}\right]\right] \quad \text{(Eq. X-1)}$$

Where:

C_g = Annual net contribution to calculated emissions from carbon (C) in gaseous materials, including streams containing CO_2 recovered for sale or use in another process (kg/yr).

$(F_{gf})_{i,n}$ = Volume or mass of gaseous feedstock i introduced in month ''n'' (scf or kg). If you measure mass, the term $(MW_f)_{i,n}$/MVC is replaced with ''1''.

$(CC_{gf})_{i,n}$ = Average carbon content of the gaseous feedstock i for month ''n'' (kg C per kg of feedstock).

$(MW_f)_{i,n}$ = Molecular weight of gaseous feedstock i in month ''n''(kg/kg-mole).

MVC = Molar volume conversion factor (849.5 scf per kg-mole at 68 °F and 14.7 pounds per square inch absolute or 836.6 scf/kg-mole at 60 °F and 14.7 pounds per square inch absolute).

$(P_{gp})_{i,n}$ = Volume or mass of gaseous product i produced in month ''n'' (scf or kg). If you measure mass, the term $(MW_p)_{i,n}$/MVC is replaced with ''1''.

$(CC_{gp})_{i,n}$ = Average carbon content of gaseous product i, including streams containing CO_2 recovered for sale or use in another process, for month ''n'' (kg C per kg of product).

$(MW_p)_{i,n}$ = Molecular weight of gaseous product i in month ''n'' (kg/kg-mole).

j = Number of feedstocks.

k = Number of products.

(ii) *Liquid feedstocks and products*. Use Equation X–2 of this section to calculate the net carbon input or output from liquid feedstocks and products. Note that the result will be a negative value if there are no liquid feedstocks in the process but there are liquid products.

$$C_l = \sum_{n=1}^{12} \left[\sum_{i=1}^{j\ or\ k} \left[\left(F_{lf}\right)_{i,n} * \left(CC_{lf}\right)_{i,n} - \left(P_{lp}\right)_{i,n} * \left(CC_{lp}\right)_{i,n} \right] \right] \qquad \text{(Eq. X-2)}$$

Where:

C_l = Annual net contribution to calculated emissions from carbon in liquid materials, including liquid organic wastes (kg/yr).

$(F_{lf})_{i,n}$ = Volume or mass of liquid feedstock i introduced in month ''n'' (gallons or kg).

$(CC_{lf})_{i,n}$ = Average carbon content of liquid feedstock i for month ''n'' (kg C per gallon or kg of feedstock).

$(P_{lp})_{i,n}$ = Volume or mass of liquid product i produced in month ''n'' (gallons or kg).

$(CC_{lp})_{i,n}$ = Average carbon content of liquid product i, including organic liquid wastes, for month ''n'' (kg C per gallon or kg of product).

j = Number of feedstocks.

k = Number of products.

(iii) *Solid feedstocks and products*. Use Equation X–3 of this section to calculate the net annual carbon input or output from solid feedstocks and products. Note that the result will be a negative value if there are no solid feedstocks in the process but there are solid products.

$$C_s = \sum_{n=1}^{12} \left\{ \sum_{i=1}^{j\ or\ k} \left[\left(F_{sf}\right)_{i,n} * \left(CC_{sf}\right)_{i,n} - \left(P_{sp}\right)_{i,n} * \left(CC_{sp}\right)_{i,n} \right] \right\} \qquad \text{(Eq. X-3)}$$

Where:

C_s = Annual net contribution to calculated emissions from carbon in solid materials (kg/yr).

$(F_{sf})_{i,n}$ = Mass of solid feedstock i introduced in month ''n'' (kg).

$(CC_{sf})_{i,n}$ = Average carbon content of solid feedstock i for month ''n'' (kg C per kg of feedstock).

$(P_{sp})_{i,n}$ = Mass of solid product i produced in month ''n'' (kg).

$(CC_{sp})_{i,n}$ = Average carbon content of solid product i in month ''n'' (kg C per kg of product).

j = Number of feedstocks.

k = Number of products.

(iv) *Annual emissions*. Use the results from Equations X–1 through X–3 of this section, as applicable, in Equation X–4 of this section to calculate annual CO_2 emissions.

$$CO_2 = 0.001 * \frac{44}{12} * \left(C_g + C_l + C_s\right) \qquad \text{(Eq. X-4)}$$

Where:

CO_2 = Annual CO_2 mass emissions from process operations and process off-gas combustion (metric tons/year).

0.001 = Conversion factor from kg to metric tons.

44 = Molecular weight of CO_2 (kg/kg-mole).

12 = Atomic weight of carbon (C) (kg/kg-mole).

(d) *Optional combustion methodology for ethylene production processes.* For each ethylene production process, calculate GHG emissions from combustion units that burn fuel that contains any off-gas from the ethylene process as specified in paragraphs (d)(1) through (d)(5) of this section.

(1) Except as specified in paragraphs (d)(2) and (d)(5) of this section, calculate CO_2 emissions using the Tier 3 or Tier 4 methodology in subpart C of this part.

(2) You may use either Equation C–1 or Equation C–2a in subpart C of this part to calculate CO_2 emissions from combustion of any ethylene process off-gas streams that meet either of the conditions in paragraphs (d)(2)(i) or (d)(2)(ii) of this section (for any default values in the calculation, use the defaults for fuel gas in Table C–1 of subpart C of this part). Follow the otherwise applicable procedures in subpart C to calculate emissions from combustion of all other fuels in the combustion unit.

(i) The annual average flow rate of fuel gas (that contains ethylene process off-gas) in the fuel gas line to the combustion unit, prior to any split to individual burners or ports, does not exceed 345 standard cubic feet per minute at 60 °F and 14.7 pounds per square inch absolute, and a flow meter is not installed at any point in the line supplying fuel gas or an upstream common pipe. Calculate the annual average flow rate using company records assuming total flow is evenly distributed over 525,600 minutes per year.

(ii) The combustion unit has a maximum rated heat input capacity of less than 30 mmBtu/hr, and a flow meter is not installed at any point in the line supplying fuel gas (that contains ethylene process off-gas) or an upstream common pipe.

(3) Except as specified in paragraph (d)(5) of this section, calculate CH_4 and N_2O emissions using the applicable procedures in § 98.33(c) for the same tier methodology that you used for calculating CO_2 emissions.

(i) For all gaseous fuels that contain ethylene process off-gas, use the emission factors for ''Fuel Gas'' in Table C–2 of subpart C of this part (General Stationary Fuel Combustion Sources).

(ii) For Tier 3, use either the default high heat value for fuel gas in Table C–1 of subpart C of this part or a calculated HHV, as allowed in Equation C–8 of subpart C of this part.

(4) You are not required to use the same Tier for each stationary combustion unit that burns ethylene process off-gas.

(5) For each flare, calculate CO_2, CH_4, and N_2O emissions using the methodology specified in §§ 98.253(b)(1) through (b)(3).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79157, Dec. 17, 2010; 78 FR 71961, Nov. 29, 2013]

§ 98.244 Monitoring and QA/QC requirements.

(a) If you use CEMS to determine emissions from process vents, you must comply with the procedures specified in § 98.34(c).

(b) If you use the mass balance methodology in § 98.243(c), use the procedures specified in paragraphs (b)(1) through (b)(4) of this section to determine feedstock and product flows and carbon contents.

(1) Operate, maintain, and calibrate belt scales or other weighing devices as described in Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices NIST Handbook 44 (2009) (incorporated by reference, see § 98.7), or follow procedures specified by the measurement device manufacturer. You must recalibrate each weighing device according

to one of the following frequencies. You may recalibrate either at the minimum frequency specified by the manufacturer or biennially (*i.e.*, once every two years).

(2) Operate and maintain all flow meters used for gas and liquid feedstocks and products according to the manufacturer's recommended procedures. You must calibrate each of these flow meters as specified in paragraphs (b)(2)(i) and (b)(2)(ii) of this section:

(i) You may use either the calibration methods specified by the flow meter manufacturer or an industry consensus standard method. Each flow meter must meet the applicable accuracy specification in § 98.3(i), except as otherwise specified in §§ 98.3(i)(4) through (i)(6).

(ii) You must recalibrate each flow meter according to one of the following frequencies. You may recalibrate at the minimum frequency specified by the manufacturer, biennially (every two years), or at the interval specified by the industry consensus standard practice used.

(3) You must perform tank level measurements (if used to determine feedstock or product flows) according to one of the following methods. You may use any standard method published by a consensus-based standards organization or you may use an industry standard practice. Consensus-based standards organizations include, but are not limited to, the following: ASTM International (100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), the American National Standards Institute (ANSI, 1819 L Street, NW., 6th Floor, Washington, DC 20036, (202) 293–8020, *http://www.ansi.org*), the American Gas Association (AGA, 400 North Capitol Street, NW., 4th Floor, Washington, DC 20001, (202) 824–7000, *http://www.aga.org*), the American Society of Mechanical Engineers (ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*), the American Petroleum Institute (API, 1220 L Street, NW., Washington, DC 20005–4070, (202) 682–8000, *http://www.api.org*,) and the North American Energy Standards Board (NAESB, 801 Travis Street, Suite 1675, Houston, TX 77002, (713) 356–0060, *http://www.api.org*).

(4) Beginning January 1, 2010, use any applicable methods specified in paragraphs (b)(4)(i) through (xv) of this section to determine the carbon content or composition of feedstocks and products and the average molecular weight of gaseous feedstocks and products. Calibrate instruments in accordance with paragraphs (b)(4)(i) through (xv) of this section, as applicable. For coal used as a feedstock, the samples for carbon content determinations shall be taken at a location that is representative of the coal feedstock used during the corresponding monthly period. For carbon black products, samples shall be taken of each grade or type of product produced during the monthly period. Samples of coal feedstock or carbon black product for carbon content determinations may be either grab samples collected and analyzed monthly or a composite of samples collected more frequently and analyzed monthly. Analyses conducted in accordance with methods specified in paragraphs (b)(4)(i) through (xv) of this section may be performed by the owner or operator, by an independent laboratory, by the supplier of a feedstock, or by a product customer.

(i) ASTM D1945–03, Standard Test Method for Analysis of Natural Gas by Gas Chromatography (incorporated by reference, *see* § 98.7).

(ii) ASTM D6060–96 (Reapproved 2001) Standard Practice for Sampling of Process Vents With a Portable Gas Chromatograph (incorporated by reference, *see* § 98.7).

(iii) ASTM D2505–88(Reapproved 2004)e1 Standard Test Method for Ethylene, Other Hydrocarbons, and Carbon Dioxide in High-Purity Ethylene by Gas Chromatography (incorporated by reference, *see* § 98.7).

(iv) ASTM UOP539–97 Refinery Gas Analysis by Gas Chromatography (incorporated by reference, *see* § 98.7).

(v) ASTM D3176–89 (Reapproved 2002) Standard Practice Method for Ultimate Analysis of Coal and Coke (incorporated by reference, *see* § 98.7).

(vi) ASTM D5291–02 (Reapproved 2007) Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum

Products and Lubricants (incorporated by reference, *see* § 98.7).

(vii) ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, *see* § 98.7).

(viii) Method 8015C, Method 8021B, Method 8031, or Method 9060A (all incorporated by reference, see § 98.7).

(ix) Method 18 at 40 CFR part 60, appendix A–6.

(x) Performance Specification 9 in 40 CFR part 60, appendix B for continuous online gas analyzers. The 7-day calibration error test period must be completed prior to the effective date of the rule.

(xi) ASTM D2593–93 (Reapproved 2009) Standard Test Method for Butadiene Purity and Hydrocarbon Impurities by Gas Chromatography (incorporated by reference, see § 98.7).

(xii) ASTM D7633–10 Standard Test Method for Carbon Black—Carbon Content (incorporated by reference, see § 98.7).

(xiii) The results of chromatographic analysis of a feedstock or product, provided that the chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions.

(xiv) The results of mass spectrometer analysis of a feedstock or product, provided that the mass spectrometer is operated, maintained, and calibrated according to the manufacturer's instructions.

(xv) Beginning on January 1, 2010, the methods specified in paragraphs (b)(4)(xv)(A) and (B) of this section may be used as alternatives for the methods specified in paragraphs (b)(4)(i) through (b)(4)(xiv) of this section.

(A) An industry standard practice or a method published by a consensus-based standards organization if such a method exists for carbon black feedstock oils and carbon black products. Consensus-based standards organizations include, but are not limited to, the following: ASTM International (100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), the American National Standards Institute (ANSI, 1819 L Street, NW., 6th floor, Washington, DC 20036, (202) 293–8020, *http://www.ansi.org*), the American Gas Association (AGA, 400 North Capitol Street NW., 4th Floor, Washington, DC 20001, (202) 824–7000, *http://www.aga.org*), the American Society of Mechanical Engineers (ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*), the American Petroleum Institute (API, 1220 L Street NW., Washington, DC 20005–4070, (202) 682–8000, *http://www.api.org*), and the North American Energy Standards Board (NAESB, 801 Travis Street, Suite 1675, Houston, TX 77002, (713) 356–0060, *http://www.naesb.org*). The method(s) used shall be documented in the monitoring plan required under § 98.3(g)(5).

(B) Modifications of existing analytical methods or other methods that are applicable to your process provided that the methods listed in paragraphs (b)(4)(i) through (b)(4)(xiv) of this section are not appropriate because the relevant compounds cannot be detected, the quality control requirements are not technically feasible, or use of the method would be unsafe.

(c) If you comply with § 98.243(b) or (d), conduct monitoring and QA/QC for flares in accordance with § 98.254(b) through (e) for each flare gas flow meter, gas composition meter, and/or heating value monitor that you use to comply with § 98.253(b)(1) through (b)(3). You must implement all applicable QA/QC requirements specified in this paragraph (c) beginning no later than January 1, 2015.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79158, Dec. 17, 2010; 78 FR 71961, Nov. 29, 2013]

§ 98.245 Procedures for estimating missing data.

For missing feedstock and product flow rates, use the same procedures as for missing fuel usage as specified in § 98.35(b)(2). For missing feedstock and product carbon contents and missing molecular weights for gaseous feedstocks and products, use the same procedures as for missing carbon contents and missing molecular weights for fuels as specified in § 98.35(b)(1).

For missing flare data, follow the procedures in § 98.255(b) and (c).

[78 FR 71962, Nov. 29, 2013]

§ 98.246 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a), (b), or (c) of this section, as appropriate for each process unit.

(a) If you use the mass balance methodology in § 98.243(c), you must report the information specified in paragraphs (a)(1) through (13) of this section for each type of petrochemical produced, reported by process unit.

(1) The petrochemical process unit ID number or other appropriate descriptor.

(2) The type of petrochemical produced, names of products, and names of carbon-containing feedstocks.

(3) Annual CO_2 emissions calculated using Equation X–4 of this subpart.

(4) The temperature (in °F) at which the gaseous feedstock and product volumes used in Equation X–1 of § 98.243 were determined.

(5) Annual quantity of each type of petrochemical produced from each process unit (metric tons).

(6) For each feedstock and product, provide the information specified in paragraphs (a)(6)(i) through (a)(6)(iii) of this section.

(i) Name of each method used to determine carbon content or molecular weight in accordance with § 98.244(b)(4);

(ii) Description of each type of device (e.g., flow meter, weighing device) used to determine flow or mass in accordance with § 98.244(b)(1) through (3).

(iii) Identification of each method (i.e., method number, title, or other description) used to determine flow or mass in accordance with § 98.244(b)(1) through (3).

(7) [Reserved]

(8) Identification of each combustion unit that burned both process off-gas and supplemental fuel, including combustion units that are not part of the petrochemical process unit.

(9) The number of days during which off-specification product was produced if the alternative to sampling and analysis specified in § 98.243(c)(4) is used for a product, and, if applicable, the date of any process change that reduced the monthly average composition to less than 99.5 percent for each product or feedstock for which you comply with the alternative to sampling and analysis specified in § 98.243(c)(4).

(10) You may elect to report the flow and carbon content of wastewater, and you may elect to report the annual mass of carbon released in fugitive emissions and in process vents that are not controlled with a combustion device. These values may be estimated based on engineering analyses. These values are not to be used in the mass balance calculation.

(11) If you determine carbon content or composition of a feedstock or product using a method under § 98.244(b)(4)(xv)(B), report the information listed in paragraphs (a)(11)(i) through (a)(11)(iii) of this section. Include the information in paragraph (a)(11)(i) of this section in each annual report. Include the information in paragraphs (a)(11)(ii) and (a)(11)(iii) of this section only in the first applicable annual report, and provide any changes to this information in subsequent annual reports.

(i) Name or title of the analytical method.

(ii) A copy of the method. If the method is a modification of a method listed in §§ 98.244(b)(4)(i) through (xiv), you may provide a copy of only the sections that differ from the listed method.

(iii) An explanation of why an alternative to the methods listed in §§ 98.244(b)(4)(i) through (xiv) is needed.

(12) Name and annual quantity (in metric tons) of each carbon-containing feedstock included in Equations X–1, X–2, and X–3 of § 98.243.

(13) Name and annual quantity (in metric tons) of each product included in Equations X–1, X–2, and X–3.

(b) If you measure emissions in accordance with § 98.243(b), then you must report the information listed in paragraphs (b)(1) through (10) of this section.

(1) The petrochemical process unit ID or other appropriate descriptor, and the type of petrochemical produced.

(2) For CEMS used on stacks that include emissions from stationary combustion units that burn any amount of off-gas from the petrochemical process, report the relevant information required under § 98.36(c)(2) and (e)(2)(vi) for the Tier 4 calculation methodology.

Sections 98.36(c)(2)(ii) and (c)(2)(ix) do not apply for the purposes of this subpart.

(3) For CEMS used on stacks that do not include emissions from stationary combustion units, report the information required under § 98.36(b)(6), (b)(7), and (e)(2)(vi).

(4) For each CEMS monitoring location that meets the conditions in paragraph (b)(2) or (3) of this section, provide an estimate based on engineering judgment of the fraction of the total CO_2 emissions that results from CO_2 directly emitted by the petrochemical process unit plus CO_2 generated by the combustion of off-gas from the petrochemical process unit.

(5) For each CEMS monitoring location that meets the conditions in paragraph (b)(2) of this section, report the CH_4 and N_2O emissions expressed in metric tons of each gas. For each CEMS monitoring location, provide an estimate based on engineering judgment of the fraction of the total CH_4 and N_2O emissions that is attributable to combustion of off-gas from the petrochemical process unit.

(6) [Reserved]

(7) Information listed in § 98.256(e) of subpart Y of this part for each flare that burns process off-gas.

(8) Annual quantity of each type of petrochemical produced from each process unit (metric tons).

(9) Name and annual quantity (in metric tons) of each carbon-containing feedstock.

(10) Name and annual quantity (in metric tons) of each product.

(c) If you comply with the combustion methodology specified in § 98.243(d), you must report under this subpart the information listed in paragraphs (c)(1) through (c)(5) of this section.

(1) The ethylene process unit ID or other appropriate descriptor.

(2) For each stationary combustion unit that burns ethylene process off-gas (or group of stationary sources with a common pipe), except flares, the relevant information listed in § 98.36 for the applicable Tier methodology. For each stationary combustion unit or group of units (as applicable) that burns ethylene process off-gas, provide an estimate based on engineering judgment of the fraction of the total emissions that is attributable to combustion of off-gas from the ethylene process unit.

(3) Information listed in § 98.256(e) of subpart Y of this part for each flare that burns ethylene process off-gas.

(4) Name and annual quantity of each feedstock (metric tons).

(5) Annual quantity of ethylene produced from each process unit (metric tons).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79159, Dec. 17, 2010; 78 FR 71962, Nov. 29, 2013; 79 FR 63794, Oct. 24, 2014]

§ 98.247 Records that must be retained.

In addition to the recordkeeping requirements in § 98.3(g), you must retain the records specified in paragraphs (a) through (d) of this section, as applicable.

(a) If you comply with the CEMS measurement methodology in § 98.243(b), then you must retain under this subpart the records required for the Tier 4 Calculation Methodology in § 98.37, records of the procedures used to develop estimates of the fraction of total emissions attributable to combustion of petrochemical process off-gas as required in § 98.246(b), and records of any annual average HHV calculations.

(b) If you comply with the mass balance methodology in § 98.243(c), then you must retain records of the information listed in paragraphs (b)(1) through (4) of this section.

(1) Results of feedstock or product composition determinations conducted in accordance with § 98.243(c)(4).

(2) Start and end times for time periods when off-specification product is produced, if you comply with the alternative methodology in § 98.243(c)(4) for determining carbon content of product.

(3) As part of the monitoring plan required under § 98.3(g)(5), record the estimated accuracy of measurement devices and the technical basis for these estimates.

(4) The dates and results (*e.g.*, percent calibration error) of the calibrations of each measurement device.

(c) If you comply with the combustion methodology in § 98.243(d), then you must retain under this subpart the

records required for the applicable Tier Calculation Methodologies in § 98.37. If you comply with § 98.243(d)(2), you must also keep records of the annual average flow calculations.

(d) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (d)(1) through (30) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (d)(1) through (30) of this section.

(1) Indicate whether the feedstock is measured as mass or volume (Equation X–1 of § 98.243).

(2) Indicate whether you used the alternative to sampling and analysis specified in § 98.243(c)(4) (Equation X–1).

(3) Volume of gaseous feedstock introduced per month (scf) (Equation X–1).

(4) Mass of gaseous feedstock introduced per month (kg) (Equation X–1).

(5) Average carbon content of the gaseous feedstock per month (kg C per kg of feedstock) (Equation X–1).

(6) Molecular weight of gaseous feedstock per month (kg per kg-mole) (Equation X–1).

(7) Indicate whether the gaseous product is measured as mass or volume (Equation X–1).

(8) Volume of gaseous product produced per month (scf) (Equation X–1).

(9) Mass of gaseous product produced per month (kg) (Equation X–1).

(10) Average carbon content of gaseous product (including streams containing CO_2 recovered for sale or use in another process) per month (kg C per kg of product) (Equation X–1).

(11) Molecular weight of gaseous product per month (kg per kg-mole) (Equation X–1).

(12) Molar volume conversion factor of product (scf per kg-mole) (Equation X–1).

(13) Indicate whether feedstock is measured as mass or volume (Equation X–2 of § 98.243).

(14) Indicate whether you used the alternative to sampling and analysis specified in § 98.243(c)(4) (Equation X–2).

(15) Volume of liquid feedstock introduced per month (gallons) (Equation X–2).

(16) Mass of liquid feedstock introduced per month (kg) (Equation X–2).

(17) Average carbon content of liquid feedstock per month (kg C per gallon) (Equation X–2).

(18) Average carbon content of liquid feedstock per month (kg C per kg of feedstock) (Equation X–2).

(19) Indicate whether product is measured as mass or volume per month (Equation X–2).

(20) Volume of liquid product produced per month (gallons) (Equation X–2).

(21) Mass of liquid product produced per month (kg) (Equation X–2).

(22) Average carbon content of liquid product per month, including organic liquid wastes (kg C per gallon) (Equation X–2).

(23) Average carbon content of liquid product, including organic liquid wastes (kg C per kg of product) (Equation X–2).

(24) Indicate whether you used the alternative to sampling and analysis specified in § 98.243(c)(4) (Equation X–3 of § 98.243).

(25) Mass of solid feedstock introduced per month (kg) (Equation X–3).

(26) Average carbon content of solid feedstock per month (kg C per kg of feedstock) (Equation X–3).

(27) Mass of solid product produced per month (kg) (Equation X–3).

(28) Average carbon content of solid product per month (kg C per kg of product) (Equation X–3).

(29) Records required in § 98.257(b)(1) through (8) of this section for each flare that burns ethylene process off-gas.

(30) Records required in § 98.37 for each stationary fuel combustion unit (or group of stationary sources with a common pipe) that burns ethylene process off-gas, except flares.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79160, Dec. 17, 2010; 78 FR 71962, Nov. 29, 2013; 79 FR 63794, Oct. 24, 2014]

§ 98.248 Definitions.

Except as specified in this section, all terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Product, as used in § 98.243, means each of the following carbon-containing outputs from a process: the petrochemical, recovered byproducts, and liquid organic wastes that are not combusted onsite. Product does not include process vent emissions, fugitive emissions, or wastewater.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71963, Nov. 29, 2013]

Subpart Y—Petroleum Refineries

§ 98.250 Definition of source category.

(a) A petroleum refinery is any facility engaged in producing gasoline, gasoline blending stocks, naphtha, kerosene, distillate fuel oils, residual fuel oils, lubricants, or asphalt (bitumen) through distillation of petroleum or through redistillation, cracking, or reforming of unfinished petroleum derivatives, except as provided in paragraph (b) of this section.

(b) For the purposes of this subpart, facilities that distill only pipeline transmix (off-spec material created when different specification products mix during pipeline transportation) are not petroleum refineries, regardless of the products produced.

(c) This source category consists of the following sources at petroleum refineries: Catalytic cracking units; fluid coking units; delayed coking units; catalytic reforming units; coke calcining units; asphalt blowing operations; blowdown systems; storage tanks; process equipment components (compressors, pumps, valves, pressure relief devices, flanges, and connectors) in gas service; marine vessel, barge, tanker truck, and similar loading operations; flares; sulfur recovery plants; and non-merchant hydrogen plants (i.e., hydrogen plants that are owned or under the direct control of the refinery owner and operator).

§ 98.251 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a petroleum refineries process and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.252 GHGs to report.

You must report:

(a) CO_2, CH_4, and N_2O combustion emissions from stationary combustion units and from each flare. Calculate and report the emissions from stationary combustion units under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C, except for emissions from combustion of fuel gas. For CO_2 emissions from combustion of fuel gas, use either Equation C–5 in subpart C of this part or the Tier 4 methodology in subpart C of this part, unless either of the conditions in paragraphs (a)(1) or (2) of this section are met, in which case use either Equations C–1 or C–2a in subpart C of this part. For CH_4 and N_2O emissions from combustion of fuel gas, use the applicable procedures in § 98.33(c) for the same tier methodology that was used for calculating CO_2 emissions. (Use the default CH_4 and N_2O emission factors for ''Fuel Gas'' in Table C–2 of this part. For Tier 3, use either the default high heat value for fuel gas in Table C–1 of subpart C of this part or a calculated HHV, as allowed in Equation C–8 of subpart C of this part.) You may aggregate units, monitor common stacks, or monitor common (fuel) pipes as provided in § 98.36(c) when calculating and reporting emissions from stationary combustion units. Calculate and report the emissions from flares under this subpart.

(1) The annual average fuel gas flow rate in the fuel gas line to the combustion unit, prior to any split to individual burners or ports, does not exceed 345 standard cubic feet per minute at 60 °F and 14.7 pounds per square inch absolute and either of the conditions in paragraph (a)(1)(i) or (ii) of this section exist. Calculate the annual average flow rate using company records assuming total flow is evenly distributed over 525,600 minutes per year.

(i) A flow meter is not installed at any point in the line supplying fuel gas or an upstream common pipe.

(ii) The fuel gas line contains only vapors from loading or unloading, waste or wastewater handling, and remediation activities that are combusted in a thermal oxidizer or thermal incinerator.

(2) The combustion unit has a maximum rated heat input capacity of less

than 30 mmBtu/hr and either of the following conditions exist:

(i) A flow meter is not installed at any point in the line supplying fuel gas or an upstream common pipe; or

(ii) The fuel gas line contains only vapors from loading or unloading, waste or wastewater handling, and remediation activities that are combusted in a thermal oxidizer or thermal incinerator.

(b) CO_2, CH_4, and N_2O coke burn-off emissions from each catalytic cracking unit, fluid coking unit, and catalytic reforming unit under this subpart.

(c) CO_2 emissions from sour gas sent off site for sulfur recovery operations under this subpart. You must follow the calculation methodologies from § 98.253(f) and the monitoring and QA/QC methods, missing data procedures, reporting requirements, and recordkeeping requirements of this subpart.

(d) CO_2 process emissions from each on-site sulfur recovery plant under this subpart.

(e) CO_2, CH_4, and N_2O emissions from each coke calcining unit under this subpart.

(f) CO_2 and CH_4 emissions from asphalt blowing operations under this subpart.

(g) CH_4 emissions from equipment leaks, storage tanks, loading operations, delayed coking units, and uncontrolled blowdown systems under this subpart.

(h) CO_2, CH_4, and N_2O emissions from each process vent not specifically included in paragraphs (a) through (g) of this section under this subpart.

(i) CO_2 emissions from non-merchant hydrogen production process units (not including hydrogen produced from catalytic reforming units) following the calculation methodologies, monitoring and QA/QC methods, missing data procedures, reporting requirements, and recordkeeping requirements of subpart P of this part.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79160, Dec. 17, 2010; 78 FR 71963, Nov. 29, 2013]

§ 98.253 Calculating GHG emissions.

(a) Calculate GHG emissions required to be reported in § 98.252(b) through (i) using the applicable methods in paragraphs (b) through (n) of this section.

(b) For flares, calculate GHG emissions according to the requirements in paragraphs (b)(1) through (b)(3) of this section.

(1) Calculate the CO_2 emissions according to the applicable requirements in paragraphs (b)(1)(i) through (b)(1)(iii) of this section.

(i) *Flow measurement.* If you have a continuous flow monitor on the flare, you must use the measured flow rates when the monitor is operational and the flow rate is within the calibrated range of the measurement device to calculate the flare gas flow. If you do not have a continuous flow monitor on the flare and for periods when the monitor is not operational or the flow rate is outside the calibrated range of the measurement device, you must use engineering calculations, company records, or similar estimates of volumetric flare gas flow.

(ii) *Heat value or carbon content measurement.* If you have a continuous higher heating value monitor or gas composition monitor on the flare or if you monitor these parameters at least weekly, you must use the measured heat value or carbon content value in calculating the CO_2 emissions from the flare using the applicable methods in paragraphs (b)(1)(ii)(A) and (b)(1)(ii)(B).

(A) If you monitor gas composition, calculate the CO_2 emissions from the flare using either Equation Y–1a or Equation Y–1b of this section. If daily or more frequent measurement data are available, you must use daily values when using Equation Y–1a or Equation Y–1b of this section; otherwise, use weekly values.

$$CO_2 = 0.98 \times 0.001 \times \left(\sum_{p=1}^{n} \left[\frac{44}{12} \times (Flare)_p \times \frac{(MW)_p}{MVC} \times (CC)_p \right] \right) \qquad \text{(Eq. Y-1a)}$$

where:

CO_2 = Annual CO_2 emissions for a specific fuel type (metric tons/year).

0.98 = Assumed combustion efficiency of a flare.

0.001 = Unit conversion factor (metric tons per kilogram, mt/kg).

n = Number of measurement periods. The minimum value for n is 52 (for weekly measurements); the maximum value for n is 366 (for daily measurements during a leap year).

p = Measurement period index.

44 = Molecular weight of CO_2 (kg/kg-mole).

12 = Atomic weight of C (kg/kg-mole).

$(Flare)_p$ = Volume of flare gas combusted during measurement period (standard cubic feet per period, scf/period). If a mass flow meter is used, measure flare gas flow rate in kg/period and replace the term ''$(MW)_p$/MVC'' with ''1''.

$(MW)_p$ = Average molecular weight of the flare gas combusted during measurement period (kg/kg-mole). If measurements are taken more frequently than daily, use the arithmetic average of measurement values within the day to calculate a daily average.

MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 pounds per square inch absolute (psia) or 836.6 scf/kg-mole at 60 °F and 14.7 psia).

$(CC)_p$ = Average carbon content of the flare gas combusted during measurement period (kg C per kg flare gas). If measurements are taken more frequently than daily, use the arithmetic average of measurement values within the day to calculate a daily average.

$$CO_2 = \sum_{p=1}^{n}\left[(Flare)_p \times \frac{44}{MVC} \times 0.001 \times \left(\frac{(\%CO_2)_p}{100\%} + \sum_{x=1}^{y}\left\{0.98 \times \frac{(\%C_x)_p}{100\%} \times CMN_x\right\}\right)\right] \quad \text{(Eq.Y-1b)}$$

where:

CO_2 = Annual CO_2 emissions for a specific fuel type (metric tons/year).

n = Number of measurement periods. The minimum value for n is 52 (for weekly measurements); the maximum value for n is 366 (for daily measurements during a leap year).

p = Measurement period index.

$(Flare)_p$ = Volume of flare gas combusted during measurement period (standard cubic feet per period, scf/period). If a mass flow meter is used, you must determine the average molecular weight of the flare gas during the measurement period and convert the mass flow to a volumetric flow.

44 = Molecular weight of CO_2 (kg/kg-mole).

MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 psia or 836.6 scf/kg-mole at 60 °F and 14.7 psia).

0.001 = Unit conversion factor (metric tons per kilogram, mt/kg).

$(\%CO_2)_p$ = Mole percent CO_2 concentration in the flare gas stream during the measurement period (mole percent = percent by volume).

y = Number of carbon-containing compounds other than CO_2 in the flare gas stream.

x = Index for carbon-containing compounds other than CO_2.

0.98 = Assumed combustion efficiency of a flare (mole CO_2 per mole carbon).

$(\%C_X)_p$ = Mole percent concentration of compound ''x'' in the flare gas stream during the measurement period (mole percent = percent by volume)

CMN_X = Carbon mole number of compound ''x'' in the flare gas stream (mole carbon atoms per mole compound). E.g., CMN for ethane (C_2H_6) is 2; CMN for propane (C_3H_8) is 3.

(B) If you monitor heat content but do not monitor gas composition, calculate the CO_2 emissions from the flare using Equation Y–2 of this section. If daily or more frequent measurement data are available, you must use daily values when using Equation Y–2 of this section; otherwise, use weekly values.

$$CO_2 = 0.98 \times 0.001 \times \sum_{p=1}^{n}\left[(Flare)_p \times (HHV)_p \times EmF\right] \quad \text{(Eq. Y-2)}$$

Where:

CO_2 = Annual CO_2 emissions for a specific fuel type (metric tons/year).

0.98 = Assumed combustion efficiency of a flare.

0.001 = Unit conversion factor (metric tons per kilogram, mt/kg).

n = Number of measurement periods. The minimum value for n is 52 (for weekly measurements); the maximum value for n is 366 (for daily measurements during a leap year).

p = Measurement period index.

$(Flare)_p$ = Volume of flare gas combusted during measurement period (million (MM) scf/period). If a mass flow meter is used, you must also measure molecular weight and convert the mass flow to a volumetric flow as follows: Flare[MMscf] = 0.000001 × Flare[kg] × MVC/$(MW)_p$, where MVC is the molar volume conversion factor [849.5 scf/kg-mole at 68 °F and 14.7 psia or 836.6 scf/kg-mole at 60 °F and 14.7 psia depending on the standard conditions used when determining $(HHV)_p$] and $(MW)_p$ is the average molecular weight of the flare gas combusted during measurement period (kg/kg-mole).

$(HHV)_p$ = Higher heating value for the flare gas combusted during measurement period (British thermal units per scf, Btu/scf = MMBtu/MMscf). If measurements are taken more frequently than daily, use the arithmetic average of measurement values within the day to calculate a daily average.

EmF = Default CO_2 emission factor of 60 kilograms CO_2/MMBtu (HHV basis).

(iii) *Alternative to heat value or carbon content measurements.* If you do not measure the higher heating value or carbon content of the flare gas at least weekly, determine the quantity of gas discharged to the flare separately for periods of routine flare operation and for periods of start-up, shutdown, or malfunction, and calculate the CO_2 emissions as specified in paragraphs (b)(1)(iii)(A) through (b)(1)(iii)(C) of this section.

(A) For periods of start-up, shutdown, or malfunction, use engineering calculations and process knowledge to estimate the carbon content of the flared gas for each start-up, shutdown, or malfunction event exceeding 500,000 scf/day.

(B) For periods of normal operation, use the average heating value measured for the fuel gas for the heating value of the flare gas. If heating value is not measured, the heating value may be estimated from historic data or engineering calculations.

(C) Calculate the CO_2 emissions using Equation Y–3 of this section.

$$CO_2 = 0.98 \times 0.001 \times \left(Flare_{Norm} \times HHV \times EmF + \sum_{p=1}^{n} \left[\frac{44}{12} \times \left(Flare_{SSM} \right)_p \times \frac{(MW)_p}{MVC} \times (CC)_p \right] \right) \quad \text{(Eq. Y-3)}$$

Where:

CO_2 = Annual CO_2 emissions for a specific fuel type (metric tons/year).

0.98 = Assumed combustion efficiency of a flare.

0.001 = Unit conversion factor (metric tons per kilogram, mt/kg).

$Flare_{Norm}$ = Annual volume of flare gas combusted during normal operations from company records, (million (MM) standard cubic feet per year, MMscf/year).

HHV = Higher heating value for fuel gas or flare gas from company records (British thermal units per scf, Btu/scf = MMBtu/MMscf).

EmF = Default CO_2 emission factor for flare gas of 60 kilograms CO_2/MMBtu (HHV basis).

n = Number of start-up, shutdown, and malfunction events during the reporting year exceeding 500,000 scf/day.

p = Start-up, shutdown, and malfunction event index.

44 = Molecular weight of CO_2 (kg/kg-mole).

12 = Atomic weight of C (kg/kg-mole).

$(Flare_{SSM})_p$ = Volume of flare gas combusted during indexed start-up, shutdown, or malfunction event from engineering calculations, (scf/event).

$(MW)_p$ = Average molecular weight of the flare gas, from the analysis results or engineering calculations for the event (kg/kg-mole).

MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 psia or 836.6 scf/kg-mole at 60 °F and 14.7 psia).

$(CC)_p$ = Average carbon content of the flare gas, from analysis results or engineering calculations for the event (kg C per kg flare gas).

(2) Calculate CH_4 using Equation Y–4 of this section.

$$CH_4 = \left(CO_2 \times \frac{EmF_{CH4}}{EmF} \right) + CO_2 \times \frac{0.02}{0.98} \times \frac{16}{44} \times f_{CH4} \qquad \text{(Eq. Y-4)}$$

Where:

CH_4 = Annual methane emissions from flared gas (metric tons CH_4/year).

CO_2 = Emission rate of CO_2 from flared gas calculated in paragraph (b)(1) of this section (metric tons/year).

EmF_{CH4} = Default CH_4 emission factor for ''Fuel Gas'' from Table C–2 of subpart C of this part (General Stationary Fuel Combustion Sources) (kg CH_4/MMBtu).

EmF = Default CO_2 emission factor for flare gas of 60 kg CO_2/MMBtu (HHV basis).

0.02/0.98 = Correction factor for flare combustion efficiency.

16/44 = Correction factor ratio of the molecular weight of CH_4 to CO_2.

f_{CH4} = Weight fraction of carbon in the flare gas prior to combustion that is contributed by methane from measurement values or engineering calculations (kg C in methane in flare gas/kg C in flare gas); default is 0.4.

(3) Calculate N_2O emissions using Equation Y–5 of this section.

$$N_2O = \left(CO_2 \times \frac{EmF_{N2O}}{EmF} \right) \qquad \text{(Eq. Y-5)}$$

Where:

N_2O = Annual nitrous oxide emissions from flared gas (metric tons N_2O/year).

CO_2 = Emission rate of CO_2 from flared gas calculated in paragraph (b)(1) of this section (metric tons/year).

EmF_{N2O} = Default N_2O emission factor for ''Fuel Gas'' from Table C–2 of subpart C of this part (General Stationary Fuel Combustion Sources) (kg N_2O/MMBtu).

EmF = Default CO_2 emission factor for flare gas of 60 kg CO_2/MMBtu (HHV basis).

(c) For catalytic cracking units and traditional fluid coking units, calculate the GHG emissions using the applicable methods described in paragraphs (c)(1) through (c)(5) of this section.

(1) If you operate and maintain a CEMS that measures CO_2 emissions according to subpart C of this part (General Stationary Fuel Combustion Sources), you must calculate and report CO_2 emissions as provided in paragraphs (c)(1)(i) and (c)(1)(ii) of this section. Other catalytic cracking units and traditional fluid coking units must either install a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Combustion Sources), or follow the requirements of paragraphs (c)(2) or (3) of this section.

(i) Calculate CO_2 emissions by following the Tier 4 Calculation Methodology specified in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(ii) For catalytic cracking units whose process emissions are discharged through a combined stack with other CO_2 emissions (*e.g.*, co-mingled with emissions from a CO boiler) you must also calculate the other CO_2 emissions using the applicable methods for the applicable subpart (*e.g.*, subpart C of this part in the case of a CO boiler). Calculate the process emissions from the catalytic cracking unit or fluid coking unit as the difference in the CO_2 CEMS emissions and the calculated emissions associated with the additional units discharging through the combined stack.

(2) For catalytic cracking units and fluid coking units with rated capacities greater than 10,000 barrels per stream day (bbls/sd) that do not use a continuous CO_2 CEMS for the final exhaust stack, you must continuously or no less frequently than hourly monitor the O_2, CO_2, and (if necessary) CO concentrations in the exhaust stack from the catalytic cracking unit regenerator or fluid coking unit burner prior to the combustion of other fossil fuels and calculate the CO_2 emissions according to the requirements of paragraphs (c)(2)(i) through (c)(2)(iii) of this section:

(i) Calculate the CO_2 emissions from each catalytic cracking unit and fluid coking unit using Equation Y–6 of this section.

$$CO_2 = \sum_{p=1}^{n} \left[(Q_r)_p \times \frac{(\%CO_2 + \%CO)_p}{100\%} \times \frac{44}{MVC} \times 0.001 \right] \quad \text{(Eq. Y-6)}$$

Where:

CO_2 = Annual CO_2 mass emissions (metric tons/year).

Q_r = Volumetric flow rate of exhaust gas from the fluid catalytic cracking unit regenerator or fluid coking unit burner prior to the combustion of other fossil fuels (dry standard cubic feet per hour, dscfh).

$\%CO_2$ = Hourly average percent CO_2 concentration in the exhaust gas stream from the fluid catalytic cracking unit regenerator or fluid coking unit burner (percent by volume—dry basis).

%CO = Hourly average percent CO concentration in the exhaust gas stream from the fluid catalytic cracking unit regenerator or fluid coking unit burner (percent by volume—dry basis). When there is no post-combustion device, assume %CO to be zero.

44 = Molecular weight of CO_2 (kg/kg-mole).

MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 psia or 836.6 scf/kg-mole at 60 °F and 14.7 psia).

0.001 = Conversion factor (metric ton/kg).

n = Number of hours in calendar year.

(ii) Either continuously monitor the volumetric flow rate of exhaust gas from the fluid catalytic cracking unit regenerator or fluid coking unit burner prior to the combustion of other fossil fuels or calculate the volumetric flow rate of this exhaust gas stream using either Equation Y–7a or Equation Y–7b of this section.

$$Q_r = \frac{\left(79 * Q_a + (100 - \%O_{oxy}) * Q_{oxy}\right)}{100 - \%CO_2 - \%CO - \%O_2} \quad \text{(Eq. Y-7a)}$$

where:

Q_r = Volumetric flow rate of exhaust gas from the fluid catalytic cracking unit regenerator or fluid coking unit burner prior to the combustion of other fossil fuels (dscfh).

Q_a = Volumetric flow rate of air to the fluid catalytic cracking unit regenerator or fluid coking unit burner, as determined from control room instrumentation (dscfh).

Q_{oxy} = Volumetric flow rate of oxygen enriched air to the fluid catalytic cracking unit regenerator or fluid coking unit burner as determined from control room instrumentation (dscfh).

$\%O_2$ = Hourly average percent oxygen concentration in exhaust gas stream from the fluid catalytic cracking unit regenerator or fluid coking unit burner (percent by volume—dry basis).

$\%O_{oxy}$ = O_2 concentration in oxygen enriched gas stream inlet to the fluid catalytic cracking unit regenerator or fluid coking unit burner based on oxygen purity specifications of the oxygen supply used for enrichment (percent by volume—dry basis).

$\%CO_2$ = Hourly average percent CO_2 concentration in the exhaust gas stream from the fluid catalytic cracking unit regenerator or fluid coking unit burner (percent by volume—dry basis).

%CO = Hourly average percent CO concentration in the exhaust gas stream from the fluid catalytic cracking unit regenerator or fluid coking unit burner (percent by volume—dry basis). When no auxiliary fuel is burned and a continuous CO monitor is not required under 40 CFR part 63 subpart UUU, assume %CO to be zero.

$$Q_r = \frac{\left(78.1 * Q_a + (\%N_{2,oxy}) * Q_{oxy}\right)}{\%N_{2,exhaust}} \quad \text{(Eq. Y-7b)}$$

where:

Q_r = Volumetric flow rate of exhaust gas from the fluid catalytic cracking unit regenerator or fluid coking unit burner prior to the combustion of other fossil fuels (dscfh).

Q_a = Volumetric flow rate of air to the fluid catalytic cracking unit regenerator or fluid coking unit burner, as determined from control room instrumentation (dscfh).

Q_{oxy} = Volumetric flow rate of oxygen enriched air to the fluid catalytic cracking unit regenerator or fluid coking unit burner as determined from control room instrumentation (dscfh).

$\%N_{2,oxy}$ = N_2 concentration in oxygen enriched gas stream inlet to the fluid catalytic cracking unit regenerator or fluid coking unit burner based on measured value or maximum N_2 impurity specifications of the oxygen supply used for enrichment (percent by volume—dry basis).

$\%N_{2,exhaust}$ = Hourly average percent N_2 concentration in the exhaust gas stream from the fluid catalytic cracking unit regenerator or fluid coking unit burner (percent by volume—dry basis).

(iii) If you have a CO boiler that uses auxiliary fuels or combusts materials other than catalytic cracking unit or fluid coking unit exhaust gas, you must determine the CO_2 emissions resulting from the combustion of these fuels or other materials following the requirements in subpart C and report those emissions by following the requirements of subpart C of this part.

(3) For catalytic cracking units and fluid coking units with rated capacities of 10,000 barrels per stream day (bbls/sd) or less that do not use a continuous CO_2 CEMS for the final exhaust stack, comply with the requirements in paragraph (c)(3)(i) of this section or paragraphs (c)(3)(ii) and (c)(3)(iii) of this section, as applicable.

(i) If you continuously or no less frequently than daily monitor the O_2, CO_2, and (if necessary) CO concentrations in the exhaust stack from the catalytic cracking unit regenerator or fluid coking unit burner prior to the combustion of other fossil fuels, you must calculate the CO_2 emissions according to the requirements of paragraphs (c)(2)(i) through (c)(2)(iii) of this section, except that daily averages are allowed and the summation can be performed on a daily basis.

(ii) If you do not monitor at least daily the O_2, CO_2, and (if necessary) CO concentrations in the exhaust stack from the catalytic cracking unit regenerator or fluid coking unit burner prior to the combustion of other fossil fuels, calculate the CO_2 emissions from each catalytic cracking unit and fluid coking unit using Equation Y–8 of this section.

$$CO_2 = Q_{unit} \times (CBF \times 0.001) \times CC \times \frac{44}{12} \qquad \text{(Eq. Y-8)}$$

Where:

CO_2 = Annual CO_2 mass emissions (metric tons/year).

Q_{unit} = Annual throughput of unit from company records (barrels (bbls) per year, bbl/yr).

CBF = Coke burn-off factor from engineering calculations (kg coke per barrel of feed); default for catalytic cracking units = 7.3; default for fluid coking units = 11.

0.001 = Conversion factor (metric ton/kg).

CC = Carbon content of coke based on measurement or engineering estimate (kg C per kg coke); default = 0.94.

44/12 = Ratio of molecular weight of CO_2 to C (kg CO_2 per kg C).

(iii) If you have a CO boiler that uses auxiliary fuels or combusts materials other than catalytic cracking unit or fluid coking unit exhaust gas, you must determine the CO_2 emissions resulting from the combustion of these fuels or other materials following the requirements in subpart C of this part (General Stationary Fuel Combustion Sources) and report those emissions by following the requirements of subpart C of this part.

(4) Calculate CH_4 emissions using either unit specific measurement data, a unit-specific emission factor based on a source test of the unit, or Equation Y–9 of this section.

$$CH_4 = \left(CO_2 * \frac{EmF_2}{EmF_1} \right) \qquad \text{(Eq. Y-9)}$$

Where:

CH_4 = Annual methane emissions from coke burn-off (metric tons CH_4/year).

CO_2 = Emission rate of CO_2 from coke burn-off calculated in paragraphs (c)(1), (c)(2), (e)(1), (e)(2), (g)(1), or (g)(2) of this section, as applicable (metric tons/year).

EmF_1 = Default CO_2 emission factor for petroleum coke from Table C–1 of subpart C of this part (General Stationary Fuel Combustion Sources) (kg CO_2/MMBtu).

EmF_2 = Default CH_4 emission factor for ''PetroleumProducts'' from Table C–2 of subpart C of this part (General Stationary Fuel Combustion Sources) (kg CH_4/MMBtu).

(5) Calculate N_2O emissions using either unit specific measurement data, a unit-specific emission factor based on a source test of the unit, or Equation Y–10 of this section.

$$N_2O = \left(CO_2 * \frac{EmF_3}{EmF_1} \right) \qquad \text{(Eq. Y-10)}$$

Where:

N_2O = Annual nitrous oxide emissions from coke burn-off (mt N_2O/year).

CO_2 = Emission rate of CO_2 from coke burn-off calculated in paragraphs (c)(1), (c)(2), (e)(1), (e)(2), (g)(1), or (g)(2) of this section, as applicable (metric tons/year).

EmF_1 = Default CO_2 emission factor for petroleum coke from Table C–1 of subpart C of this part (General Stationary Fuel Combustion Sources) (kg CO_2/MMBtu).

EmF_3 = Default N_2O emission factor for ''PetroleumProducts'' from Table C–2 of subpart C of this part (kg N_2O/MMBtu).

(d) For fluid coking units that use the flexicoking design, the GHG emissions from the resulting use of the low value fuel gas must be accounted for only once. Typically, these emissions will be accounted for using the methods described in subpart C of this part (General Stationary Fuel Combustion Sources). Alternatively, you may use the methods in paragraph (c) of this section provided that you do not otherwise account for the subsequent combustion of this low value fuel gas.

(e) For catalytic reforming units, calculate the CO_2 emissions using the applicable methods described in paragraphs (e)(1) through (e)(3) of this section and calculate the CH_4 and N_2O emissions using the methods described in paragraphs (c)(4) and (c)(5) of this section, respectively.

(1) If you operate and maintain a CEMS that measures CO_2 emissions according to subpart C of this part (General Stationary Fuel Combustion Sources), you must calculate CO_2 emissions as provided in paragraphs (c)(1)(i) and (c)(1)(ii) of this section. Other catalytic reforming units must either install a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part, or follow the requirements of paragraph (e)(2) or (e)(3) of this section.

(2) If you continuously or no less frequently than daily monitor the O_2, CO_2, and (if necessary) CO concentrations in the exhaust stack from the catalytic reforming unit catalyst regenerator prior to the combustion of other fossil fuels, you must calculate the CO_2 emissions according to the requirements of paragraphs (c)(2)(i) through (c)(2)(iii) of this section.

(3) Calculate CO_2 emissions from the catalytic reforming unit catalyst regenerator using Equation Y–11 of this section.

$$CO_2 = \sum_{1}^{n} \left[\left(CB_Q \right)_n \times CC \times \frac{44}{12} \times 0.001 \right] \qquad \text{(Eq. Y-11)}$$

Where:

CO_2 = Annual CO_2 emissions (metric tons/year).

CB_Q = Coke burn-off quantity per regeneration cycle or measurement period from engineering estimates (kg coke/cycle or kg coke/measurement period).

n = Number of regeneration cycles or measurement periods in the calendar year.

CC = Carbon content of coke based on measurement or engineering estimate (kg C per kg coke); default = 0.94.
44/12 = Ratio of molecular weight of CO_2 to C (kg CO_2 per kg C).
0.001 = Conversion factor (metric ton/kg).

(f) For on-site sulfur recovery plants and for sour gas sent off site for sulfur recovery, calculate and report CO_2 process emissions from sulfur recovery plants according to the requirements in paragraphs (f)(1) through (f)(5) of this section, or, for non-Claus sulfur recovery plants, according to the requirements in paragraph (j) of this section regardless of the concentration of CO_2 in the vented gas stream. Combustion emissions from the sulfur recovery plant (e.g., from fuel combustion in the Claus burner or the tail gas treatment incinerator) must be reported under subpart C of this part (General Stationary Fuel Combustion Sources). For the purposes of this subpart, the sour gas stream for which monitoring is required according to paragraphs (f)(2) through (f)(5) of this section is not considered a fuel.

(1) If you operate and maintain a CEMS that measures CO_2 emissions according to subpart C of this part, you must calculate CO_2 emissions under this subpart by following the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources). You must monitor fuel use in the Claus burner, tail gas incinerator, or other combustion sources that discharge via the final exhaust stack from the sulfur recovery plant and calculate the combustion emissions from the fuel use according to subpart C of this part. Calculate the process emissions from the sulfur recovery plant as the difference in the CO_2 CEMS emissions and the calculated combustion emissions associated with the sulfur recovery plant final exhaust stack. Other sulfur recovery plants must either install a CEMS that complies with the Tier 4 Calculation Methodology in subpart C, or follow the requirements of paragraphs (f)(2) through (f)(5) of this section, or (for non-Claus sulfur recovery plants only) follow the requirements in paragraph (j) of this section to determine CO_2 emissions for the sulfur recovery plant.

(2) Flow measurement. If you have a continuous flow monitor on the sour gas feed to the sulfur recovery plant or the sour gas feed sent for off-site sulfur recovery, you must use the measured flow rates when the monitor is operational to calculate the sour gas flow rate. If you do not have a continuous flow monitor on the sour gas feed to the sulfur recovery plant or the sour gas feed sent for off-site sulfur recovery, you must use engineering calculations, company records, or similar estimates of volumetric sour gas flow.

(3) Carbon content. If you have a continuous gas composition monitor capable of measuring carbon content on the sour gas feed to the sulfur recovery plant or the sour gas feed sent for off-site for sulfur recovery, or if you monitor gas composition for carbon content on a routine basis, you must use the measured carbon content value. Alternatively, you may develop a site-specific carbon content factor using limited measurement data or engineering estimates or use the default factor of 0.20.

(4) Calculate the CO_2 emissions from each on-site sulfur recovery plant and for sour gas sent off-site for sulfur recovery using Equation Y–12 of this section.

$$CO_2 = F_{SG} * \frac{44}{MVC} * MF_C * 0.001 \qquad \text{(Eq. Y-12)}$$

Where:

CO_2 = Annual CO_2 emissions (metric tons/year).

F_{SG} = Volumetric flow rate of sour gas (including sour water stripper gas) fed to the sulfur recovery plant or the sour gas feed sent off-site for sulfur recovery (scf/year).

44 = Molecular weight of CO_2 (kg/kg-mole).
MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 psia or 836.6 scf/kg-mole at 60 °F and 14.7 psia).
MF_C = Mole fraction of carbon in the sour gas fed to the sulfur recovery plant or the sour gas feed sent off-site for sulfur recovery (kg-mole C/kg-mole gas); default = 0.20.
0.001 = Conversion factor, kg to metric tons.

(5) If tail gas is recycled to the front of the sulfur recovery plant and the recycled flow rate and carbon content is included in the measured data under paragraphs (f)(2) and (f)(3) of this section, respectively, then the annual CO_2 emissions calculated in paragraph (f)(4) of this section must be corrected to avoid double counting these emissions. You may use engineering estimates to perform this correction or assume that the corrected CO_2 emissions are 95 percent of the uncorrected value calculated using Equation Y–12 of this section.

(g) For coke calcining units, calculate GHG emissions according to the applicable provisions in paragraphs (g)(1) through (g)(3) of this section.

(1) If you operate and maintain a CEMS that measures CO_2 emissions according to subpart C of this part, you must calculate and report CO_2 emissions under this subpart by following the Tier 4 Calculation Methodology specified in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources). You must monitor fuel use in the coke calcining unit that discharges via the final exhaust stack from the coke calcining unit and calculate the combustion emissions from the fuel use according to subpart C of this part. Calculate the process emissions from the coke calcining unit as the difference in the CO_2 CEMS emissions and the calculated combustion emissions associated with the coke calcining unit final exhaust stack. Other coke calcining units must either install a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part, or follow the requirements of paragraph (g)(2) of this section.

(2) Calculate the CO_2 emissions from the coke calcining unit using Equation Y–13 of this section.

$$CO_2 = \frac{44}{12} * \left(M_{in} * CC_{GC} - \left(M_{out} + M_{dust} \right) * CC_{MPC} \right) \qquad \text{(Eq. Y-13)}$$

Where:
CO_2 = Annual CO_2 emissions (metric tons/year).
M_{in} = Annual mass of green coke fed to the coke calcining unit from facility records (metric tons/year).
CC_{GC} = Average mass fraction carbon content of green coke from facility measurement data (metric ton carbon/metric ton green coke).
M_{out} = Annual mass of marketable petroleum coke produced by the coke calcining unit from facility records (metric tons petroleum coke/year).
M_{dust} = Annual mass of petroleum coke dust removed from the process through the dust collection system of the coke calcining unit from facility records (metric ton petroleum coke dust/year). For coke calcining units that recycle the collected dust, the mass of coke dust removed from the process is the mass of coke dust collected less the mass of coke dust recycled to the process.
CC_{MPC} = Average mass fraction carbon content of marketable petroleum coke produced by the coke calcining unit from facility measurement data (metric ton carbon/metric ton petroleum coke).
44 = Molecular weight of CO_2 (kg/kg-mole).
12 = Atomic weight of C (kg/kg-mole).

(3) For all coke calcining units, use the CO_2 emissions from the coke calcining unit calculated in paragraphs (g)(1) or (g)(2), as applicable, and calculate CH_4 using the methods described in paragraph (c)(4) of this section and N_2O emissions using the methods described in paragraph (c)(5) of this section.

(h) For asphalt blowing operations, calculate CO_2 and CH_4 emissions according to the requirements in paragraph (j) of this section regardless of the CO_2 and CH_4 concentrations or according to the applicable provisions in

paragraphs (h)(1) and (h)(2) of this section.

(1) For uncontrolled asphalt blowing operations or asphalt blowing operations controlled by vapor scrubbing, calculate CO_2 and CH_4 emissions using Equations Y–14 and Y–15 of this section, respectively.

$$CO_2 = (Q_{AB} \times EF_{AB.CO2}) \qquad \text{(Eq. Y-14)}$$

Where:

CO_2 = Annual CO_2 emissions from uncontrolled asphalt blowing (metric tons CO_2/year).

Q_{AB} = Quantity of asphalt blown (million barrels per year, MMbbl/year).

$EF_{AB,CO2}$ = Emission factor for CO_2 from uncontrolled asphalt blowing from facility-specific test data (metric tons CO_2/MMbbl asphalt blown); default = 1,100.

$$CH_4 = \left(Q_{AB} \times EF_{AB,CH4}\right) \qquad \text{(Eq. Y-15)}$$

Where:

CH_4 = Annual methane emissions from uncontrolled asphalt blowing (metric tons CH_4/year).

Q_{AB} = Quantity of asphalt blown (million barrels per year, MMbbl/year).

EF_{AB,CH_4} = Emission factor for CH_4 from uncontrolled asphalt blowing from facility-specific test data (metric tons CH_4/MMbbl asphalt blown); default = 580.

(2) For asphalt blowing operations controlled by thermal oxidizer or flare, calculate CO_2 using either Equation Y–16a or Equation Y–16b of this section and calculate CH_4 emissions using Equation Y–17 of this section, provided these emissions are not already included in the flare emissions calculated in paragraph (b) of this section or in the stationary combustion unit emissions required under subpart C of this part (General Stationary Fuel Combustion Sources).

$$CO_2 = 0.98 \times \left(Q_{AB} \times CEF_{AB} \times \frac{44}{12}\right) \qquad \text{(Eq. Y-16a)}$$

where:

CO_2 = Annual CO_2 emissions from controlled asphalt blowing (metric tons CO_2/year).

0.98 = Assumed combustion efficiency of thermal oxidizer or flare.

Q_{AB} = Quantity of asphalt blown (MMbbl/year).

CEF_{AB} = Carbon emission factor from asphalt blowing from facility-specific test data (metric tons C/MMbbl asphalt blown); default = 2,750.

44 = Molecular weight of CO_2 (kg/kg-mole).

12 = Atomic weight of C (kg/kg-mole).

$$CO_2 = Q_{AB} \times \left(EF_{AB,CO2} + 0.98 \times \left[\left(CEF_{AB} \times \frac{44}{12}\right) - EF_{AB,CO2}\right]\right) \qquad \text{(Eq. Y-16b)}$$

where:

CO_2 = Annual CO_2 emissions from controlled asphalt blowing (metric tons CO_2/year).

Q_{AB} = Quantity of asphalt blown (MMbbl/year).

0.98 = Assumed combustion efficiency of thermal oxidizer or flare.

$EF_{AB,CO2}$ = Emission factor for CO_2 from uncontrolled asphalt blowing from facility-specific test data (metric tons CO_2/MMbbl asphalt blown); default = 1,100.

CEF_{AB} = Carbon emission factor from asphalt blowing from facility-specific test data (metric tons C/MMbbl asphalt blown); default = 2,750.

44 = Molecular weight of CO_2 (kg/kg-mole).

12 = Atomic weight of C (kg/kg-mole).

$$CH_4 = 0.02 \times \left(Q_{AB} \times EF_{AB,CH4}\right) \qquad \text{(Eq. Y-17)}$$

where:

CH_4 = Annual methane emissions from controlled asphalt blowing (metric tons CH_4/year).

0.02 = Fraction of methane uncombusted in thermal oxidizer or flare based on assumed 98% combustion efficiency.

Q_{AB} = Quantity of asphalt blown (million barrels per year, MMbbl/year).

$EF_{AB,CH4}$ = Emission factor for CH_4 from uncontrolled asphalt blowing from facility-specific test data (metric tons CH_4/MMbbl asphalt blown); default = 580.

(i) For delayed coking units, calculate the CH_4 emissions from the depressurization of the coking unit vessel (i.e., the ''coke drum'') to atmosphere using either of the methods provided in paragraphs (i)(1) or (i)(2), provided no water or steam is added to the vessel once it is vented to the atmosphere. You must use the method in paragraph (i)(1) of this section if you add water or steam to the vessel after it is vented to the atmosphere.

(1) Use the process vent method in paragraph (j) of this section to calculate the CH_4 emissions from the depressurization of the coke drum or vessel regardless of the CH_4 concentration and also calculate the CH_4 emissions from the subsequent opening of the vessel for coke cutting operations using Equation Y–18 of this section. If you have coke drums or vessels of different dimensions, use the process vent method in paragraph (j) of this section and Equation Y–18 for each set of coke drums or vessels of the same size and sum the resultant emissions across each set of coke drums or vessels to calculate the CH_4 emissions for all delayed coking units.

$$CH_4 = \left(N \times H \times \frac{(P_{CV} + 14.7)}{14.7} \times f_{void} \times \frac{\pi \times D^2}{4} \times \frac{16}{MVC} \times MF_{CH4} \times 0.001 \right) \quad \text{(Eq. Y-18)}$$

Where:

CH_4 = Annual methane emissions from the delayed coking unit vessel opening (metric ton/year).

N = Cumulative number of vessel openings for all delayed coking unit vessels of the same dimensions during the year.

H = Height of coking unit vessel (feet).

P_{CV} = Gauge pressure of the coking vessel when opened to the atmosphere prior to coke cutting or, if the alternative method provided in paragraph (i)(2) of this section is used, gauge pressure of the coking vessel when depressurization gases are first routed to the atmosphere (pounds per square inch gauge, psig).

14.7 = Assumed atmospheric pressure (pounds per square inch, psi).

f_{void} = Volumetric void fraction of coking vessel prior to steaming (cf gas/cf of vessel); default = 0.6.

D = Diameter of coking unit vessel (feet).

16 = Molecular weight of CH_4 (kg/kg-mole).

MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 psia or 836.6 scf/kg-mole at 60 °F and 14.7 psia).

MF_{CH_4} = Mole fraction of methane in coking vessel gas (kg-mole CH_4/kg-mole gas, wet basis); default value is 0.01.

0.001 = Conversion factor (metric ton/kg).

(2) Calculate the CH_4 emissions from the depressurization vent and subsequent opening of the vessel for coke cutting operations using Equation Y–18 of this section and the pressure of the coking vessel when the depressurization gases are first routed to the atmosphere. If you have coke drums or vessels of different dimensions, use Equation Y–18 for each set of coke drums or vessels of the same size and sum the resultant emissions across each set of coke drums or vessels to calculate the CH_4 emissions for all delayed coking units.

(j) For each process vent not covered in paragraphs (a) through (i) of this section that can reasonably be expected to contain greater than 2 percent by volume CO_2 or greater than 0.5 percent by volume of CH_4 or greater than 0.01 percent by volume (100 parts per million) of N_2O, calculate GHG emissions using Equation Y–19 of this section. You must also use Equation Y–19 of this section to calculate CH_4 emissions for catalytic reforming unit depressurization and purge vents when methane is used as the purge gas, CH_4 emissions if you elected to use the method in paragraph (i)(1) of this section, and CO_2 and/or CH_4 emissions, as applicable, if you elected this method

as an alternative to the methods in paragraphs (f), (h), or (k) of this section.

$$E_x = \sum_{p=1}^{N} \left((VR)_p \times (MF_x)_p \times \frac{MW_x}{MVC} \times (VT)_p \times 0.001 \right) \qquad \text{(Eq. Y-19)}$$

Where:

E_X = Annual emissions of each GHG from process vent (metric ton/yr).

N = Number of venting events per year.

P = Index of venting events.

$(VR)_p$ = Average volumetric flow rate of process gas during the event (scf per hour) from measurement data, process knowledge, or engineering estimates.

$(MF_X)_p$ = Mole fraction of GHG x in process vent during the event (kg-mol of GHG x/kg-mol vent gas) from measurement data, process knowledge, or engineering estimates.

MW_X = Molecular weight of GHG x (kg/kg-mole); use 44 for CO_2 or N_2O and 16 for CH_4.

MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 psia or 836.6 scf/kg-mole at 60 °F and 14.7 psia).

$(VT)_p$ = Venting time for the event, (hours).

0.001 = Conversion factor (metric ton/kg).

(k) For uncontrolled blowdown systems, you must calculate CH_4 emissions either using the methods for process vents in paragraph (j) of this section regardless of the CH_4 concentration or using Equation Y–20 of this section. Blowdown systems where the uncondensed gas stream is routed to a flare or similar control device are considered to be controlled and are not required to estimate emissions under this paragraph (k).

$$CH_4 = \left(Q_{\mathrm{Re}f} \times EF_{BD} \times \frac{16}{MVC} \times 0.001 \right) \qquad \text{(Eq. Y-20)}$$

Where:

CH_4 = Methane emission rate from blowdown systems (mt CH_4/year).

Q_{Ref} = Quantity of crude oil plus the quantity of intermediate products received from off site that are processed at the facility (MMbbl/year).

EF_{BD} = Methane emission factor for uncontrolled blown systems (scf CH_4/MMbbl); default is 137,000.

16 = Molecular weight of CH_4 (kg/kg-mole).

MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 psia or 836.6 scf/kg-mole at 60 °F and 14.7 psia).

0.001 = Conversion factor (metric ton/kg).

(l) For equipment leaks, calculate CH_4 emissions using the method specified in either paragraph (l)(1) or (l)(2) of this section.

(1) Use process-specific methane composition data (from measurement data or process knowledge) and any of the emission estimation procedures provided in the Protocol for Equipment Leak Emissions Estimates (EPA–453/R–95–017, NTIS PB96–175401).

(2) Use Equation Y–21 of this section.

$$CH_4 = \left(0.4 \times N_{CD} + 0.2 \times N_{PU1} + 0.1 \times N_{PU2} + 4.3 \times N_{H2} + 6 \times N_{FGS} \right) \qquad \text{(Eq. Y-21)}$$

Where:

CH_4 = Annual methane emissions from equipment leaks (metric tons/year).

N_{CD} = Number of atmospheric crude oil distillation columns at the facility.

N_{PU1} = Cumulative number of catalytic cracking units, coking units (delayed or

fluid), hydrocracking, and full-range distillation columns (including depropanizer and debutanizer distillation columns) at the facility.

N_{PU2} = Cumulative number of hydrotreating/hydrorefining units, catalytic reforming units, and visbreaking units at the facility.

N_{H2} = Total number of hydrogen plants at the facility.

N_{FGS} = Total number of fuel gas systems at the facility.

(m) For storage tanks, except as provided in paragraph (m)(3) of this section, calculate CH_4 emissions using the applicable methods in paragraphs (m)(1) and (2) of this section.

(1) For storage tanks other than those processing unstabilized crude oil, you must either calculate CH_4 emissions from storage tanks that have a vapor-phase methane concentration of 0.5 volume percent or more using tank-specific methane composition data (from measurement data or product knowledge) and the emission estimation methods provided in AP 42, Section 7.1 (incorporated by reference, see § 98.7) or estimate CH_4 emissions from storage tanks using Equation Y–22 of this section.

$$CH_4 = \left(0.1 \times Q_{\mathrm{Re}f}\right) \qquad \text{(Eq. Y-22)}$$

Where:

CH_4 = Annual methane emissions from storage tanks (metric tons/year).

0.1 = Default emission factor for storage tanks (metric ton CH_4/MMbbl).

Q_{Ref} = Quantity of crude oil plus the quantity of intermediate products received from off site that are processed at the facility (MMbbl/year).

(2) For storage tanks that process unstabilized crude oil, calculate CH_4 emissions from the storage of unstabilized crude oil using either tank-specific methane composition data (from measurement data or product knowledge) and direct measurement of the gas generation rate or by using Equation Y–23 of this section.

$$CH_4 = \left(995{,}000 \times Q_{un} \times \Delta P\right) \times MF_{CH4} \times \frac{16}{MVC} \times 0.001 \qquad \text{(Eq. Y-23)}$$

Where:

CH_4 = Annual methane emissions from storage tanks (metric tons/year).

Q_{un} = Quantity of unstabilized crude oil received at the facility (MMbbl/year).

ΔP = Pressure differential from the previous storage pressure to atmospheric pressure (pounds per square inch, psi).

MF_{CH4} = Average mole fraction of CH_4 in vent gas from the unstabilized crude oil storage tanks from facility measurements (kg-mole CH_4/kg-mole gas); use 0.27 as a default if measurement data are not available.

995,000 = Correlation Equation factor (scf gas per MMbbl per psi).

16 = Molecular weight of CH_4 (kg/kg-mole).

MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 psia or 836.6 scf/kg-mole at 60 °F and 14.7 psia).

0.001 = Conversion factor (metric ton/kg).

(3) You do not need to calculate CH_4 emissions from storage tanks that meet any of the following descriptions:

(i) Units permanently attached to conveyances such as trucks, trailers, rail cars, barges, or ships;

(ii) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;

(iii) Bottoms receivers or sumps;

(iv) Vessels storing wastewater; or

(v) Reactor vessels associated with a manufacturing process unit.

(n) For crude oil, intermediate, or product loading operations for which the vapor-phase concentration of methane is 0.5 volume percent or more, calculate CH_4 emissions from loading operations using vapor-phase methane composition data (from measurement data or process knowledge) and the emission estimation procedures provided in AP 42, Section 5.2 (incorporated by reference, see § 98.7). For loading operations in which the vapor-phase concentration of methane is less than 0.5 volume percent, you may assume zero methane emissions.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79160, Dec. 17, 2010; 78 FR 71963, Nov. 29, 2013]

§ 98.254 Monitoring and QA/QC requirements.

(a) Fuel flow meters, gas composition monitors, and heating value monitors that are associated with sources that use a CEMS to measure CO_2 emissions according to subpart C of this part or that are associated with stationary combustion sources must meet the applicable monitoring and QA/QC requirements in § 98.34.

(b) All gas flow meters, gas composition monitors, and heating value monitors that are used to provide data for the GHG emissions calculations in this subpart for sources other than those subject to the requirements in paragraph (a) of this section shall be calibrated according to the procedures specified by the manufacturer, or according to the procedures in the applicable methods specified in paragraphs (c) through (g) of this section. In the case of gas flow meters, all gas flow meters must meet the calibration accuracy requirements in § 98.3(i). All gas flow meters, gas composition monitors, and heating value monitors must be recalibrated at the applicable frequency specified in paragraph (b)(1) or (b)(2) of this section.

(1) You must recalibrate each gas flow meter according to one of the following frequencies. You may recalibrate at the minimum frequency specified by the manufacturer, biennially (every two years), or at the interval specified by the industry consensus standard practice used.

(2) You must recalibrate each gas composition monitor and heating value monitor according to one of the following frequencies. You may recalibrate at the minimum frequency specified by the manufacturer, annually, or at the interval specified by the industry standard practice used.

(c) For flare or sour gas flow meters and gas flow meters used to comply with the requirements in § 98.253(j), operate, calibrate, and maintain the flow meter according to one of the following. You may use the procedures specified by the flow meter manufacturer, or a method published by a consensus-based standards organization. Consensus-based standards organizations include, but are not limited to, the following: ASTM International (100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), the American National Standards Institute (ANSI, 1819 L Street, NW., 6th floor, Washington, DC 20036, (202) 293–8020, *http://www.ansi.org*), the American Gas Association (AGA, 400 North Capitol Street, NW., 4th Floor, Washington, DC 20001, (202) 824–7000, *http://www.aga.org*), the American Society of Mechanical Engineers (ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*), the American Petroleum Institute (API, 1220 L Street, NW., Washington, DC 20005–4070, (202) 682–8000, *http://www.api.org*), and the North American Energy Standards Board (NAESB, 801 Travis Street, Suite 1675, Houston, TX 77002, (713) 356–0060, *http://www.api.org*).

(d) Except as provided in paragraph (g) of this section, determine gas composition and, if required, average molecular weight of the gas using any of the following methods. Alternatively, the results of chromatographic analysis of the fuel may be used, provided that the gas chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions; and the methods used for operation, maintenance, and calibration of the gas chromatograph are documented in the written Monitoring Plan for the unit under § 98.3(g)(5).

(1) Method 18 at 40 CFR part 60, appendix A–6.

(2) ASTM D1945–03 Standard Test Method for Analysis of Natural Gas by Gas Chromatography (incorporated by reference, *see* § 98.7).

(3) ASTM D1946–90 (Reapproved 2006) Standard Practice for Analysis of Reformed Gas by Gas Chromatography (incorporated by reference, *see* § 98.7).

(4) GPA 2261–00 Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography (incorporated by reference, *see* § 98.7).

(5) UOP539–97 Refinery Gas Analysis by Gas Chromatography (incorporated by reference, *see* § 98.7).

(6) ASTM D2503–92 (Reapproved 2007) Standard Test Method for Relative Molecular Mass (Molecular Weight) of Hydrocarbons by Thermoelectric Measurement of Vapor Pressure (incorporated by reference, see § 98.7).

(e) Determine flare gas higher heating value using any of the following methods. Alternatively, the results of chromatographic analysis of the fuel may be used, provided that the gas chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions; and the methods used for operation, maintenance, and calibration of the gas chromatograph are documented in the written Monitoring Plan for the unit under § 98.3(g)(5).

(1) ASTM D4809–06 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method) (incorporated by reference, *see* § 98.7).

(2) ASTM D240–02 (Reapproved 2007) Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (incorporated by reference, *see* § 98.7).

(3) ASTM D1826–94 (Reapproved 2003) Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter (incorporated by reference, *see* § 98.7).

(4) ASTM D3588–98 (Reapproved 2003) Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels (incorporated by reference, *see* § 98.7).

(5) ASTM D4891–89 (Reapproved 2006) Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion (incorporated by reference, *see* § 98.7).

(f) For gas flow meters used to comply with the requirements in § 98.253(c)(2)(ii), install, operate, calibrate, and maintain each gas flow meter according to the requirements in 40 CFR 63.1572(c) and the following requirements.

(1) Locate the flow monitor at a site that provides representative flow rates. Avoid locations where there is swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(2) [Reserved]

(3) Use a continuous monitoring system capable of correcting for the temperature, pressure, and moisture content to output flow in dry standard cubic feet (standard conditions as defined in § 98.6).

(g) For exhaust gas CO_2/CO/O_2 composition monitors used to comply with the requirements in § 98.253(c)(2), install, operate, calibrate, and maintain exhaust gas composition monitors according to the requirements in 40 CFR 60.105a(b)(2) or 40 CFR 63.1572(c) or according to the manufacturer's specifications and requirements.

(h) Determine the mass of petroleum coke as required by Equation Y–13 of this subpart using mass measurement equipment meeting the requirements for commercial weighing equipment as described in Specifications, Tolerances, and Other Technical Requirements For Weighing and Measuring Devices, NIST Handbook 44 (2009) (incorporated by reference, see § 98.7). Calibrate the measurement device according to the procedures specified by NIST handbook 44 (incorporated by reference, see § 98.7) or the procedures specified by the manufacturer. Recalibrate either biennially or at the minimum frequency specified by the manufacturer.

(i) Determine the carbon content of petroleum coke as required by Equation Y–13 of this subpart using any one of the following methods. Calibrate the measurement device according to procedures specified by the method or procedures specified by the measurement device manufacturer.

(1) ASTM D3176–89 (Reapproved 2002) Standard Practice for Ultimate Analysis of Coal and Coke (incorporated by reference, *see* § 98.7).

(2) ASTM D5291–02 (Reapproved 2007) Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum Products and Lubricants (incorporated by reference, *see* § 98.7).

(3) ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, *see* § 98.7).

(j) Determine the quantity of petroleum process streams using company records. These quantities include the quantity of asphalt blown, quantity of

crude oil plus the quantity of intermediate products received from off site, and the quantity of unstabilized crude oil received at the facility.

(k) The owner or operator shall document the procedures used to ensure the accuracy of the estimates of fuel usage, gas composition, and heating value including but not limited to calibration of weighing equipment, fuel flow meters, and other measurement devices. The estimated accuracy of measurements made with these devices shall also be recorded, and the technical basis for these estimates shall be provided.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79163, Dec. 17, 2010]

§ 98.255 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required (e.g., concentrations, flow rates, fuel heating values, carbon content values). Therefore, whenever a quality-assured value of a required parameter is unavailable (e.g., if a CEMS malfunctions during unit operation or if a required fuel sample is not taken), a substitute data value for the missing parameter shall be used in the calculations.

(a) For stationary combustion sources, use the missing data procedures in subpart C of this part.

(b) For each missing value of the heat content, carbon content, or molecular weight of the fuel, substitute the arithmetic average of the quality-assured values of that parameter immediately preceding and immediately following the missing data incident. If the ''after'' value is not obtained by the end of the reporting year, you may use the ''before'' value for the missing data substitution. If, for a particular parameter, no quality-assured data are available prior to the missing data incident, the substitute data value shall be the first quality-assured value obtained after the missing data period.

(c) For missing CO_2, CO, O_2, CH_4, or N_2O concentrations, gas flow rate, and percent moisture, the substitute data values shall be the best available estimate(s) of the parameter(s), based on all available process data (e.g., processing rates, operating hours, etc.). The owner or operator shall document and keep records of the procedures used for all such estimates.

(d) For hydrogen plants, use the missing data procedures in subpart P of this part.

§ 98.256 Data reporting requirements.

In addition to the reporting requirements of § 98.3(c), you must report the information specified in paragraphs (a) through (q) of this section.

(a) For combustion sources, follow the data reporting requirements under subpart C of this part (General Stationary Fuel Combustion Sources).

(b) For hydrogen plants, follow the data reporting requirements under subpart P of this part (Hydrogen Production).

(c)–(d) [Reserved]

(e) For flares, owners and operators shall report:

(1) The flare ID number (if applicable).

(2) A description of the type of flare (steam assisted, air-assisted).

(3) A description of the flare service (general facility flare, unit flare, emergency only or back-up flare).

(4) The calculated CO_2, CH_4, and N_2O annual emissions for each flare, expressed in metric tons of each pollutant emitted.

(5) A description of the method used to calculate the CO_2 emissions for each flare (e.g., reference section and equation number).

(6) If you use Equation Y–1a of § 98.253, an indication of whether daily or weekly measurement periods are used, the annual volume of flare gas combusted (in scf/year) and the annual average molecular weight (in kg/kgmole), and annual average carbon content of the flare gas (in kg carbon per kg flare gas).

(7) If you use Equation Y–1b of § 98.253, an indication of whether daily or weekly measurement periods are used, the annual volume of flare gas combusted (in scf/year), the annual average CO_2 concentration (volume or mole percent), the number of carbon containing compounds other than CO_2 in the flare gas stream, and for each of the carbon containing compounds other than CO_2 in the flare gas stream:

(i) The annual average concentration of the compound (volume or mole percent).

(ii) [Reserved]

(8) If you use Equation Y–2 of this subpart, an indication of whether daily or weekly measurement periods are used, the annual volume of flare gas combusted (in million (MM) scf/year), the annual average higher heating value of the flare gas (in mmBtu/mmscf), and an indication of whether the annual volume of flare gas combusted and the annual average higher heating value of the flare gas were determined using standard conditions of 68 °F and 14.7 psia or 60 °F and 14.7 psia.

(9) If you use Equation Y–3 of § 98.253, the number of SSM events exceeding 500,000 scf/day.

(10) The basis for the value of the fraction of carbon in the flare gas contributed by methane used in Equation Y–4 of § 98.253.

(f) For catalytic cracking units, traditional fluid coking units, and catalytic reforming units, owners and operators shall report:

(1) The unit ID number (if applicable).

(2) A description of the type of unit (fluid catalytic cracking unit, thermal catalytic cracking unit, traditional fluid coking unit, or catalytic reforming unit).

(3) Maximum rated throughput of the unit, in bbl/stream day.

(4) The calculated CO_2, CH_4, and N_2O annual emissions for each unit, expressed in metric tons of each pollutant emitted.

(5) A description of the method used to calculate the CO_2 emissions for each unit (e.g., reference section and equation number).

(6) If you use a CEMS, the relevant information required under § 98.36 for the Tier 4 Calculation Methodology, the CO_2 annual emissions as measured by the CEMS (unadjusted to remove CO_2 combustion emissions associated with additional units, if present) and the process CO_2 emissions as calculated according to § 98.253(c)(1)(ii). Report the CO_2 annual emissions associated with sources other than those from the coke burn-off in accordance with the applicable subpart (*e.g.*, subpart C of this part in the case of a CO boiler).

(7) If you use Equation Y–6 of § 98.253, the annual average exhaust gas flow rate, $\%CO_2$, and %CO.

(8) If you use Equation Y–7a of this subpart, the annual average flow rate of inlet air and oxygen-enriched air, $\%O_2$, $\%O_{oxy}$, $\%CO_2$, and %CO.

(9) If you use Equation Y–7b of this subpart, the annual average flow rate of inlet air and oxygen-enriched air, $\%N_{2,oxy}$, and $\%N_{2,exhaust}$.

(10) If you use Equation Y–8 of § 98.253, the basis for the value of the average carbon content of coke.

(11) Indicate whether you use a measured value, a unit-specific emission factor, or a default for CH_4 emissions. If you use a unit-specific emission factor for CH_4, report the basis for the factor.

(12) Indicate whether you use a measured value, a unit-specific emission factor, or a default emission factor for N_2O emissions. If you use a unit-specific emission factor for N_2O, report the basis for the factor.

(13) If you use Equation Y–11 of § 98.253, the number of regeneration cycles or measurement periods during the reporting year and the average coke burn-off quantity per cycle or measurement period.

(g) For fluid coking unit of the flexicoking type, the owner or operator shall report:

(1) The unit ID number (if applicable).

(2) A description of the type of unit.

(3) Maximum rated throughput of the unit, in bbl/stream day.

(4) Indicate whether the GHG emissions from the low heat value gas are accounted for in subpart C of this part or § 98.253(c).

(5) If the GHG emissions for the low heat value gas are calculated at the flexicoking unit, also report the calculated annual CO_2, CH_4, and N_2O emissions for each unit, expressed in metric tons of each pollutant emitted, and the applicable equation input parameters specified in paragraphs (f)(7) through (f)(13) of this section.

(h) For on-site sulfur recovery plants and for emissions from sour gas sent off-site for sulfur recovery, the owner and operator shall report:

(1) The plant ID number (if applicable).

(2) For each on-site sulfur recovery plant, the maximum rated throughput (metric tons sulfur produced/stream day), a description of the type of sulfur recovery plant, and an indication of the method used to calculate CO_2 annual emissions for the sulfur recovery plant (*e.g.*, CO_2 CEMS, Equation Y–12, or process vent method in § 98.253(j)).

(3) The calculated CO_2 annual emissions for each on-site sulfur recovery plant, expressed in metric tons. The calculated annual CO_2 emissions from sour gas sent off-site for sulfur recovery, expressed in metric tons.

(4) [Reserved]

(5) If you recycle tail gas to the front of the sulfur recovery plant, indicate whether the recycled flow rate and carbon content are included in the measured data under § 98.253(f)(2) and (3). Indicate whether a correction for CO_2 emissions in the tail gas was used in Equation Y–12 of § 98.253. If so, then report:

(i) Indicate whether you used the default (95 percent) or a unit specific correction, and if a unit-specific correction was used, report the value of the correction and the approach used.

(ii) If the following data are not used to calculate the recycling correction factor, report the information specified in paragraphs (h)(5)(ii)(A) through (B) of this section.

(A) The annual volume of recycled tail gas (in scf/year) only.

(B) The annual average mole fraction of carbon in the tail gas (in kg-mole C/kg-mole gas).

(6) If you use a CEMS, the relevant information required under § 98.36 for the Tier 4 Calculation Methodology, the CO_2 annual emissions as measured by the CEMS and the annual process CO_2 emissions calculated according to § 98.253(f)(1). Report the CO_2 annual emissions associated with fuel combustion in accordance with subpart C of this part (General Stationary Fuel Combustion Sources).

(7) If you use the process vent method in § 98.253(j) for a non-Claus sulfur recovery plant, the relevant information required under paragraph (l)(5) of this section.

(i) For coke calcining units, the owner and operator shall report:

(1) The unit ID number (if applicable).

(2) Maximum rated throughput of the unit, in metric tons coke calcined/stream day.

(3) The calculated CO_2, CH_4, and N_2O annual emissions for each unit, expressed in metric tons of each pollutant emitted.

(4) A description of the method used to calculate the CO_2 emissions for each unit (e.g., reference section and equation number).

(5) If you use Equation Y–13 of § 98.253, an indication of whether coke dust is recycled to the unit (e.g., all dust is recycled, a portion of the dust is recycled, or none of the dust is recycled).

(6) If you use a CEMS, the relevant information required under § 98.36 for the Tier 4 Calculation Methodology, the CO_2 annual emissions as measured by the CEMS and the annual process CO_2 emissions calculated according to § 98.253(g)(1).

(7) Indicate whether you use a measured value, a unit-specific emission factor or a default emission factor for CH_4 emissions. If you use a unit-specific emission factor for CH_4, report the basis for the factor.

(8) Indicate whether you use a measured value, a unit-specific emission factor, or a default emission factor for N_2O emissions. If you use a unit-specific emission factor for N_2O, report the basis for the factor.

(j) For asphalt blowing operations, the owner or operator shall report:

(1) The unit ID number (if applicable).

(2) [Reserved]

(3) The type of control device used to reduce methane (and other organic) emissions from the unit.

(4) The calculated annual CO_2 and CH_4 emissions for each unit, expressed in metric tons of each pollutant emitted.

(5) If you use Equation Y–14 of § 98.253, the basis for the CO_2 emission factor used.

(6) If you use Equation Y–15 of § 98.253, the basis for the CH_4 emission factor used.

(7) If you use Equation Y–16a of § 98.253, the basis for the carbon emission factor used.

(8) If you use Equation Y–16b of § 98.253, the basis for the CO_2 emission factor used and the basis for the carbon emission factor used.

(9) If you use Equation Y–17 of § 98.253, the basis for the CH_4 emission factor used.

(10) If you use Equation Y–19 of this subpart, the relevant information required under paragraph (l)(5) of this section.

(k) For delayed coking units, the owner or operator shall report:

(1) The cumulative annual CH_4 emissions (in metric tons of CH_4) for all delayed coking units at the facility.

(2) A description of the method used to calculate the CH_4 emissions for each unit (e.g., reference section and equation number).

(3) The total number of delayed coking units at the facility; the total number of delayed coking drums at the facility; and, for each coke drum or vessel, the typical drum outage (*i.e.* the unfilled distance from the top of the drum, in feet).

(4) For each set of coking drums that are the same dimensions, the number of coking drums in the set, and the mole fraction of methane in coking gas (in kg-mole CH_4/kg-mole gas, wet basis).

(5) The basis for the volumetric void fraction of the coke vessel prior to steaming and the basis for the mole fraction of methane in the coking gas.

(6) If you use Equation Y–19 of this subpart, the relevant information required under paragraph (l)(5) of this section for each set of coke drums or vessels of the same size.

(l) For each process vent subject to § 98.253(j), the owner or operator shall report:

(1) The vent ID number (if applicable).

(2) The unit or operation associated with the emissions.

(3) The type of control device used to reduce methane (and other organic) emissions from the unit, if applicable.

(4) The calculated annual CO_2, CH_4, and N_2O emissions for each vent, expressed in metric tons of each pollutant emitted.

(5) The annual volumetric flow discharged to the atmosphere (in scf), and an indication of the measurement or estimation method, annual average mole fraction of each GHG above the concentration threshold or otherwise required to be reported and an indication of the measurement or estimation method, and for intermittent vents, the number of venting events and the cumulative venting time.

(m) For uncontrolled blowdown systems, the owner or operator shall report:

(1) An indication of whether the uncontrolled blowdown emission are reported under § 98.253(k) or § 98.253(j) or a statement that the facility does not have any uncontrolled blowdown systems.

(2) The cumulative annual CH_4 emissions (in metric tons of CH_4) for uncontrolled blowdown systems.

(3) For uncontrolled blowdown systems reporting under § 98.253(k), the basis for the value of the methane emission factor used for uncontrolled blowdown systems.

(4) For uncontrolled blowdown systems reporting under § 98.253(j), the relevant information required under paragraph (l)(5) of this section.

(n) For equipment leaks, the owner or operator shall report:

(1) The cumulative CH_4 emissions (in metric tons of each pollutant emitted) for all equipment leak sources.

(2) The method used to calculate the reported equipment leak emissions.

(3) The number of each type of emission source listed in Equation Y–21 of this subpart at the facility.

(o) For storage tanks, the owner or operator shall report:

(1) The cumulative annual CH_4 emissions (in metric tons of CH_4) for all storage tanks, except for those used to process unstabilized crude oil.

(2) For storage tanks other than those processing unstabilized crude oil:

(i) The method used to calculate the reported storage tank emissions for storage tanks other than those processing unstabilized crude (*i.e.*, either AP 42, Section 7.1 (incorporated by reference, see § 98.7), or Equation Y–22 of this section).

(ii) [Reserved]

(3) The cumulative CH_4 emissions (in metric tons of CH_4) for storage tanks used to process unstabilized crude oil or a statement that the facility did not

receive any unstabilized crude oil during the reporting year.

(4) For storage tanks that process unstabilized crude oil:

(i) The method used to calculate the reported unstabilized crude oil storage tank emissions.

(ii)–(iv) [Reserved]

(v) The basis for the mole fraction of CH_4 in vent gas from unstabilized crude oil storage tanks.

(vi) If you did not use Equation Y–23, the tank-specific methane composition data and the annual gas generation volume (scf/yr) used to estimate the cumulative CH_4 emissions for storage tanks used to process unstabilized crude oil.

(5)–(7) [Reserved]

(p) For loading operations, the owner or operator shall report:

(1) The cumulative annual CH_4 emissions (in metric tons of each pollutant emitted) for loading operations.

(2) The types of materials loaded that have an equilibrium vapor-phase concentration of methane of 0.5 volume percent or greater, and the type of vessel (barge, tanker, marine vessel, etc.) in which each type of material is loaded.

(3) The type of control system used to reduce emissions from the loading of material with an equilibrium vapor-phase concentration of methane of 0.5 volume percent or greater, if any (submerged loading, vapor balancing, etc.).

(q) Name of each method listed in § 98.254 or a description of manufacturer's recommended method used to determine a measured parameter.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79164, Dec. 17, 2010; 78 FR 71963, Nov. 29, 2013; 79 FR 63795, Oct. 24, 2014]

§ 98.257 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) and (b) of this section.

(a) The records of all parameters monitored under § 98.255. If you comply with the combustion methodology in § 98.252(a), then you must retain under this subpart the records required for the Tier 3 and/or Tier 4 Calculation Methodologies in § 98.37 and you must keep records of the annual average flow calculations.

(b) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (b)(1) through (67) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (b)(1) through (67) of this section.

(1) Volume of flare gas combusted during measurement period (scf) (Equation Y–1b of § 98.253).

(2) Mole percent CO_2 concentration in the flare gas stream during the measurement period (mole percent) (Equation Y–1b).

(3) Mole percent concentration of compound ''x'' in the flare gas stream during the measurement period (mole percent) (Equation Y–1b).

(4) Carbon mole number of compound ''x'' in the flare gas stream during the measurement period (mole carbon atoms per mole compound) (Equation Y–1b).

(5) Molar volume conversion factor (scf per kg-mole) (Equation Y–1b).

(6) Annual volume of flare gas combusted for each flare during normal operations from company records (million (MM) standard cubic feet per year, MMscf/year) (Equation Y–3 of § 98.253).

(7) Higher heating value for fuel gas or flare gas for each flare from company records (British thermal units per scf, Btu/scf = MMBtu/MMscf) (Equation Y–3).

(8) Volume of flare gas combusted during indexed start-up, shutdown, or malfunction event from engineering calculations (scf) (Equation Y–3).

(9) Average molecular weight of the flare gas, from the analysis results or engineering calculations for the event (kg/kg-mole) (Equation Y–3).

(10) Molar volume conversion factor (scf per kg-mole) (Equation Y–3).

(11) Average carbon content of the flare gas, from analysis results or engineering calculations for the event (kg C per kg flare gas) (Equation Y–3).

(12) Weight fraction of carbon in the flare gas prior to combustion in each flare that is contributed by methane from measurement values or engineering calculations (kg C in methane in

flare gas/kg C in flare gas) (Equation Y–4 of § 98.253).

(13) Annual throughput of unit from company records for each catalytic cracking unit or fluid coking unit (barrels/year) (Equation Y–8 of § 98.253).

(14) Coke burn-off factor from engineering calculations (default for catalytic cracking units = 7.3; default for fluid coking units = 11) (kg coke per barrel of feed) (Equation Y–8).

(15) Carbon content of coke based on measurement or engineering estimate (kg C per kg coke) (Equation Y–8).

(16) Value of unit-specific CH_4 emission factor, including the units of measure, for each catalytic cracking unit, traditional fluid coking unit, catalytic reforming unit, and coke calcining unit (calculation method in § 98.253(c)(4)).

(17) Annual activity data (e.g., input or product rate), including the units of measure, in units of measure consistent with the emission factor, for each catalytic cracking unit, traditional fluid coking unit, catalytic reforming unit, and coke calcining unit (calculation method in § 98.253(c)(4)).

(18) Value of unit-specific N_2O emission factor, including the units of measure, for each catalytic cracking unit, traditional fluid coking unit, catalytic reforming unit, and coke calcining unit (calculation method in § 98.253(c)(5)).

(19) Annual activity data (e.g., input or product rate), including the units of measure, in units of measure consistent with the emission factor, for each catalytic cracking unit, traditional fluid coking unit, catalytic reforming unit, and coke calcining unit (calculation method in § 98.253(c)(5)).

(20) Carbon content of coke based on measurement or engineering estimate (default = 0.94) (kg C per kg coke) (Equation Y–11 of § 98.253).

(21) Volumetric flow rate of sour gas (including sour water stripper gas) feed sent off site for sulfur recovery in the year (scf/year) (Equation Y–12 of § 98.253).

(22) Mole fraction of carbon in the sour gas feed sent off site for sulfur recovery (kg-mole C/kg-mole gas) (Equation Y–12).

(23) Molar volume conversion factor for sour gas sent off site (scf per kg-mole) (Equation Y–12).

(24) Volumetric flow rate of sour gas (including sour water stripper gas) fed to the onsite sulfur recovery plant (scf/year) (Equation Y–12).

(25) Mole fraction of carbon in the sour gas fed to the onsite sulfur recovery plant (kg-mole C/kg-mole gas) (Equation Y–12).

(26) Molar volume conversion factor for onsite sulfur recovery plant (scf per kg-mole) (Equation Y–12).

(27) Annual mass of green coke fed to the coke calcining unit from facility records (metric tons/year) (Equation Y–13 of § 98.253).

(28) Annual mass of marketable petroleum coke produced by the coke calcining unit from facility records (metric tons/year) (Equation Y–13).

(29) Annual mass of petroleum coke dust removed from the process through the dust collection system of the coke calcining unit from facility records. For coke calcining units that recycle the collected dust, the mass of coke dust removed from the process is the mass of coke dust collected less the mass of coke dust recycled to the process (metric tons/year) (Equation Y–13).

(30) Average mass fraction carbon content of green coke from facility measurement data (metric tons C per metric ton green coke) (Equation Y–13).

(31) Average mass fraction carbon content of marketable petroleum coke produced by the coke calcining unit from facility measurement data (metric tons C per metric ton petroleum coke (Equation Y–13).

(32) Quantity of asphalt blown for each asphalt blowing unit (million barrels per year (MMbbl/year)) (Equation Y–14 of § 98.253).

(33) Emission factor for CO_2 from uncontrolled asphalt blowing from facility-specific test data for each asphalt blowing unit (metric tons CO_2/MMbbl asphalt blown) (Equation Y–14).

(34) Emission factor for CH_4 from uncontrolled asphalt blowing from facility-specific test data for each asphalt blowing unit (metric tons CH_4/MMbbl asphalt blown) (Equation Y–15 of § 98.253).

(35) Quantity of asphalt blown (million barrels/year (MMbbl/year)) (Equation Y–16a of § 98.253).

(36) Carbon emission factor from asphalt blowing from facility-specific test data (metric tons C/MMbbl asphalt blown) (Equation Y–16a).

(37) Quantity of asphalt blown for each asphalt blowing unit (million barrels per year (MMbbl/year)) (Equation Y–16b of § 98.253).

(38) Emission factor for CO_2 from uncontrolled asphalt blowing from facility-specific test data for each asphalt blowing unit (metric tons CO_2/MMbbl asphalt blown) (Equation Y–16b).

(39) Carbon emission factor from asphalt blowing from facility-specific test data for each asphalt blowing unit (metric tons C/MMbbl asphalt blown) (Equation Y–16b).

(40) Emission factor for CH_4 from uncontrolled asphalt blowing from facility-specific test data for each asphalt blowing unit (metric tons CH_4/MMbbl asphalt blown) (Equation Y–17 of § 98.253).

(41) Cumulative number of vessel openings for all delayed coking unit vessels of the same dimensions during the year (Equation Y–18 of § 98.253).

(42) Height of coking unit vessel for each set of coke drums or vessels of the same size (feet) (Equation Y–18).

(43) Gauge pressure of the coking vessel when opened to the atmosphere prior to coke cutting or, if the alternative method provided in § 98.253(i)(2) is used, gauge pressure of the coking vessel when depressurization gases are first routed to the atmosphere for each set of coke drums or vessels of the same size (pounds per square inch gauge (psig)) (Equation Y–18).

(44) Volumetric void fraction of coking vessel prior to steaming for each set of coke drums or vessels of the same size (cf gas/cf of vessel) (Equation Y–18).

(45) Diameter of coking unit vessel for each set of coke drums or vessels of the same size (feet) (Equation Y–18).

(46) Molar volume conversion factor for each set of coke drums or vessels of the same size (scf per kg-mole) (Equation Y–18).

(47) Average volumetric flow rate of process gas during the event from measurement data, process knowledge, or engineering estimates for each set of coke drums or vessels of the same size (scf per hour) (Equation Y–19 of § 98.253).

(48) Mole fraction of methane in process vent during the event from measurement data, process knowledge, or engineering estimates for each set of coke drums or vessels of the same size (kg-mole CH_4/kg-mole gas) (Equation Y–19).

(49) Venting time for the event for each set of coke drums or vessels of the same size (hours) (Equation Y–19).

(50) Molar volume conversion factor for each set of coke drums or vessels of the same size (scf per kg-mole) (Equation Y–19).

(51) Quantity of crude oil plus the quantity of intermediate products received from off site that are processed at the facility (MMbbl/year) (Equation Y–20 of § 98.253).

(52) Molar volume conversion factor (scf per kg-mole) (Equation Y–20).

(53) Methane emission factor for uncontrolled blown systems (scf CH_4/MMbbl) (Equation Y–20).

(54) Quantity of crude oil plus the quantity of intermediate products received from off site that are processed at the facility (MMbbl/year) (Equation Y–22 of § 98.253).

(55) Quantity of unstabilized crude oil received at the facility (MMbbl/year) (Equation Y–23 of § 98.253).

(56) Pressure differential from the previous storage pressure to atmospheric pressure (psi) (Equation Y–23).

(57) Average mole fraction of CH_4 in vent gas from the unstabilized crude oil storage tanks from facility measurements (kg-mole CH_4/kg-mole gas) (Equation Y–23).

(58) Molar volume conversion factor (scf per kg-mole) (Equation Y–23).

(59) Specify whether the calculated or default loading factor L specified in § 98.253(n) is entered, for each liquid loaded to each (methods specified in § 98.253(n)).

(60) Saturation factor specified in § 98.253(n), for each liquid loaded to each vessel (methods specified in § 98.253(n)).

(61) True vapor pressure of liquid loaded, for each liquid loaded to each vessel (psia) (methods specified in § 98.253(n)).

(62) Molecular weight of vapors (lb per lb-mole), for each liquid loaded to each vessel (methods specified in § 98.253(n)).

(63) Temperature of bulk liquid loaded, for each liquid loaded to each vessel (°R, degrees Rankine) (methods specified in § 98.253(n)).

(64) Total loading loss (without efficiency correction), for each liquid loaded to each vessel (pounds per 1000 gallons loaded) (methods specified in § 98.253(n)).

(65) Overall emission control system reduction efficiency, including the vapor collection system efficiency and the vapor recovery or destruction efficiency (enter zero if no emission controls), for each liquid loaded to each vessel (percent) (methods specified § 98.253(n)).

(66) Vapor phase concentration of methane in liquid loaded, for each liquid loaded to each vessel (percent by volume) (methods specified in § 98.253(n)).

(67) Quantity of material loaded, for each liquid loaded to each vessel (thousand gallon per year) (methods specified in § 98.253(n)).

[79 FR 63796, Oct. 24, 2014]

§ 98.258 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart Z—Phosphoric Acid Production

§ 98.260 Definition of the source category.

The phosphoric acid production source category consists of facilities with a wet-process phosphoric acid process line used to produce phosphoric acid. A wet-process phosphoric acid process line is the production unit or units identified by an individual identification number in an operating permit and/or any process unit or group of process units at a facility reacting phosphate rock from a common supply source with acid.

§ 98.261 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a phosphoric acid production process and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.262 GHGs to report.

(a) You must report CO_2 process emissions from each wet-process phosphoric acid process line.

(b) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, CH_4, and N_2O from each stationary combustion unit following the requirements of subpart C of this part.

§ 98.263 Calculating GHG emissions.

You must calculate and report the annual process CO_2 emissions from each wet-process phosphoric acid process line using the procedures in either paragraph (a) or (b) of this section.

(a) Calculate and report under this subpart the process CO_2 emissions by operating and maintaining a CEMS according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) Calculate and report under this subpart the process CO_2 emissions using the procedures in paragraphs (b)(1) and (b)(2) of this section.

(1) Calculate the annual CO_2 mass emissions from each wet-process phosphoric acid process line using the methods in paragraphs (b)(1)(i) or (ii) of this section, as applicable.

(i) If your process measurement provides the inorganic carbon content of phosphate rock as an output, calculate and report the process CO_2 emissions from each wet-process phosphoric acid process line using Equation Z–1a of this section:

$$E_m = \sum_{i=1}^{b}\sum_{n=1}^{z}\left(IC_{n,i} * P_{n,i}\right) * \frac{2000}{2205} * \frac{44}{12} \qquad \text{(Eq. Z-1a)}$$

where:

E_m = Annual CO_2 mass emissions from a wet-process phosphoric acid process line m according to this Equation Z–1a (metric tons).

$IC_{n,i}$ = Inorganic carbon content of a grab sample batch of phosphate rock by origin i obtained during month n, from the carbon analysis results (percent by weight, expressed as a decimal fraction).

$P_{n,i}$ = Mass of phosphate rock by origin i consumed in month n by wet-process phosphoric acid process line m (tons).

z = Number of months during which the process line m operates.

b = Number of different types of phosphate rock in month, by origin. If the grab sample is a composite sample of rock from more than one origin, b = 1.

2000/2205 = Conversion factor to convert tons to metric tons.

44/12 = Ratio of molecular weights, CO_2 to carbon.

(ii) If your process measurement provides the CO_2 content directly as an output, calculate and report the process CO_2 emissions from each wet-process phosphoric acid process line using Equation Z–1b of this section:

$$E_m = \sum_{i=1}^{b}\sum_{n=1}^{z}\left(CO_{2_{n,i}} * P_{n,i}\right) * \frac{2000}{2205} \qquad \text{(Eq. Z-1b)}$$

where:

E_m = Annual CO_2 mass emissions from a wet-process phosphoric acid process line m according to this Equation Z–1b (metric tons).

$CO_{2n,i}$ = Carbon dioxide content of a grab sample batch of phosphate rock by origin i obtained during month n (percent by weight, expressed as a decimal fraction).

$P_{n,i}$ = Mass of phosphate rock by origin i consumed in month n by wet-process phosphoric acid process line m (tons).

z = Number of months during which the process line m operates.

b = Number of different types of phosphate rock in month, by origin. If the grab sample is a composite sample of rock from more than one origin, b=1.

2000/2205 = Conversion factor to convert tons to metric tons.

(2) You must determine the total emissions from the facility using Equation Z–2 of this section:

$$CO_2 = \sum_{m=1}^{p} E_m \qquad \text{(Eq. Z-2)}$$

Where:

CO_2 = Annual process CO_2 emissions from phosphoric acid production facility (metric tons/year).

E_m = Annual process CO_2 emissions from wet-process phosphoric acid process line m (metric tons/year).

p = Number of wet-process phosphoric acid process lines.

(c) If GHG emissions from a wet-process phosphoric acid process line are vented through the same stack as any combustion unit or process equipment that reports CO_2 emissions using a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Fuel Combustion Sources), then the calculation methodology in paragraph (b) of this section shall not be used to calculate process emissions. The owner or operator shall report under this subpart the combined stack emissions according to the Tier 4 Calculation Methodology in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66468, Oct. 28, 2010; 78 FR 71964, Nov. 29, 2013]

§ 98.264 Monitoring and QA/QC requirements.

(a) You must obtain a monthly grab sample of phosphate rock directly from the rock being fed to the process line before it enters the mill using one of the following methods. You may conduct the representative bulk sampling using a method published by a consensus standards organization, or you may use industry consensus standard practice methods, including but not limited to the Phosphate Mining States Methods Used and Adopted by the Association of Fertilizer and Phosphate Chemists (AFPC). If phosphate rock is obtained from more than one origin in a month, you must obtain a

sample from each origin of rock or obtain a composite representative sample.

(b) You must determine the carbon dioxide or inorganic carbon content of each monthly grab sample of phosphate rock (consumed in the production of phosphoric acid). You may use a method published by a consensus standards organization, or you may use industry consensus standard practice methods, including but not limited to the Phosphate Mining States Methods Used and Adopted by AFPC.

(c) You must determine the mass of phosphate rock consumed each month (by origin) in each wet-process phosphoric acid process line. You can use existing plant procedures that are used for accounting purposes (such as sales records) or you can use data from existing monitoring equipment that is used to measure total mass flow of phosphorous-bearing feed under 40 CFR part 60 or part 63.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66468, Oct. 28, 2010; 78 FR 71964, Nov. 29, 2013]

§ 98.265 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter must be used in the calculations as specified in paragraphs (a) and (b) of this section.

(a) For each missing value of the inorganic carbon content or CO_2 content of phosphate rock (by origin), you must use the appropriate default factor provided in Table Z–1 of this subpart. Alternatively, you must determine a substitute data value by calculating the arithmetic average of the quality-assured values of inorganic carbon contents or CO_2 contents of phosphate rock of origin i (see Equation Z–1a or Z–1b of this subpart) from samples immediately preceding and immediately following the missing data incident. If no quality-assured data on inorganic carbon contents or CO_2 contents of phosphate rock of origin i are available prior to the missing data incident, the substitute data value shall be the first quality-assured value for inorganic carbon contents or CO_2 contents for phosphate rock of origin i obtained after the missing data period.

(b) For each missing value of monthly mass consumption of phosphate rock (by origin), you must use the best available estimate based on all available process data or data used for accounting purposes.

[78 FR 71964, Nov. 29, 2013]

§ 98.266 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) through (f) of this section.

(a) Annual phosphoric acid production, by origin of the phosphate rock (tons).

(b) Annual phosphoric acid production capacity (tons).

(c) Annual arithmetic average percent inorganic carbon or carbon dioxide in phosphate rock from monthly records (percent by weight, expressed as a decimal fraction).

(d) Annual phosphate rock consumption from monthly measurement records by origin (tons).

(e) If you use a CEMS to measure CO_2 emissions, then you must report the information in paragraphs (e)(1) and (e)(2) of this section.

(1) The identification number of each wet-process phosphoric acid process line.

(2) The annual CO_2 emissions from each wet-process phosphoric acid process line (metric tons) and the relevant information required under 40 CFR 98.36 (e)(2)(vi) for the Tier 4 Calculation Methodology.

(f) If you do not use a CEMS to measure emissions, then you must report the information in paragraphs (f)(1) through (9) of this section.

(1) Identification number of each wet-process phosphoric acid process line.

(2) Annual CO_2 emissions from each wet-process phosphoric acid process line (metric tons) as calculated by either Equation Z–1a or Equation Z–1b of this subpart.

(3) Annual phosphoric acid permitted production capacity (tons) for each

wet-process phosphoric acid process line (metric tons).

(4) Method used to estimate any missing values of inorganic carbon content or carbon dioxide content of phosphate rock for each wet-process phosphoric acid process line.

(5) [Reserved]

(6) [Reserved]

(7) Number of wet-process phosphoric acid process lines.

(8) Number of times missing data procedures were used to estimate phosphate rock consumption (months), inorganic carbon contents of the phosphate rock (months), and CO_2 contents of the phosphate rock (months).

(9) Annual process CO_2 emissions from phosphoric acid production facility (metric tons).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66469, Oct. 28, 2010; 78 FR 71964, Nov. 29, 2013; 79 FR 63797, Oct. 24, 2014]

§ 98.267 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) through (d) of this section for each wet-process phosphoric acid production facility.

(a) Monthly mass of phosphate rock consumed by origin (tons).

(b) Records of all phosphate rock purchases and/or deliveries (if vertically integrated with a mine).

(c) Documentation of the procedures used to ensure the accuracy of monthly phosphate rock consumption by origin.

(d) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (d)(1) through (4) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (d)(1) through (4) of this section.

(1) Inorganic carbon content of a grab sample batch of phosphate rock by origin obtained during month by wet-process phosphoric acid process line, from the carbon analysis results (percent by weight, expressed as a decimal fraction) (Equation Z–1a of § 98.263).

(2) Mass of phosphate rock by origin consumed in month by wet-process phosphoric acid process line (tons) (Equation Z–1a).

(3) Carbon dioxide content of a grab sample batch of phosphate rock by origin obtained during month by wet-process phosphoric acid process line (percent by weight, expressed as a decimal fraction) (Equation Z–1b of § 98.263).

(4) Mass of phosphate rock by origin consumed in month by wet-process phosphoric acid process line (tons) (Equation Z–1b).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63797, Oct. 24, 2014]

§ 98.268 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71965, Nov. 29, 2013]

TABLE Z–1 TO SUBPART Z OF PART 98—DEFAULT CHEMICAL COMPOSITION OF PHOSPHATE ROCK BY ORIGIN

Origin	Total carbon (percent by weight)
Central Florida	1.6
North Florida	1.76
North Carolina (Calcined)	0.76
Idaho (Calcined)	0.60
Morocco	1.56

Subpart AA—Pulp and Paper Manufacturing

§ 98.270 Definition of source category.

(a) The pulp and paper manufacturing source category consists of facilities that produce market pulp (i.e., stand-alone pulp facilities), manufacture pulp and paper (i.e., integrated facilities), produce paper products from purchased pulp, produce secondary fiber from recycled paper, convert paper into paperboard products (e.g., containers), or operate coating and laminating processes.

(b) The emission units for which GHG emissions must be reported are listed in paragraphs (b)(1) through (b)(5) of this section:

(1) Chemical recovery furnaces at kraft and soda mills (including recovery furnaces that burn spent pulping liquor produced by both the kraft and semichemical process).

(2) Chemical recovery combustion units at sulfite facilities.

(3) Chemical recovery combustion units at stand-alone semichemical facilities.

(4) Pulp mill lime kilns at kraft and soda facilities.

(5) Systems for adding makeup chemicals ($CaCO_3$, Na_2CO_3) in the chemical recovery areas of chemical pulp mills.

§ 98.271 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a pulp and paper manufacturing process and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.272 GHGs to report.

You must report the emissions listed in paragraphs (a) through (f) of this section:

(a) CO_2, biogenic CO_2, CH_4, and N_2O emissions from each kraft or soda chemical recovery furnace.

(b) CO_2, biogenic CO_2, CH_4, and N_2O emissions from each sulfite chemical recovery combustion unit.

(c) CO_2, biogenic CO_2, CH_4, and N_2O emissions from each stand-alone semichemical chemical recovery combustion unit.

(d) CO_2, biogenic CO_2, CH_4, and N_2O emissions from each kraft or soda pulp mill lime kiln.

(e) CO_2 emissions from addition of makeup chemicals ($CaCO_3$, Na_2CO_3) in the chemical recovery areas of chemical pulp mills.

(f) CO_2, CH_4, and N_2O combustion emissions from each stationary combustion unit. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

§ 98.273 Calculating GHG emissions.

(a) For each chemical recovery furnace located at a kraft or soda facility, you must determine CO_2, biogenic CO_2, CH_4, and N_2O emissions using the procedures in paragraphs (a)(1) through (a)(3) of this section. CH_4 and N_2O emissions must be calculated as the sum of emissions from combustion of fossil fuels and combustion of biomass in spent liquor solids.

(1) Calculate fossil fuel-based CO_2 emissions from direct measurement of fossil fuels consumed and default emissions factors according to the Tier 1 methodology for stationary combustion sources in § 98.33(a)(1). A higher tier from § 98.33(a) may be used to calculate fossil fuel-based CO_2 emissions if the respective monitoring and QA/QC requirements described in § 98.34 are met.

(2) Calculate fossil fuel-based CH_4 and N_2O emissions from direct measurement of fossil fuels consumed, default or site-specific HHV, and default emissions factors and convert to metric tons of CO_2 equivalent according to the methodology for stationary combustion sources in § 98.33(c).

(3) Calculate biogenic CO_2 emissions and emissions of CH_4 and N_2O from biomass using measured quantities of spent liquor solids fired, site-specific HHV, and default emissions factors, according to Equation AA–1 of this section:

$$CO_2, CH_4, or\ N_2O\ from\ biomass = (0.907.18) * Solids * HHV * EF \qquad \text{(Eq. AA-1)}$$

Where:

CO_2, CH_4, or N_2O, from Biomass = Biogenic CO_2 emissions or emissions of CH_4 or N_2O from spent liquor solids combustion (metric tons per year).

Solids = Mass of spent liquor solids combusted (short tons per year) determined according to § 98.274(b).

HHV = Annual high heat value of the spent liquor solids (mmBtu per kilogram) determined according to § 98.274(b).

(EF) = Default emission factor for CO_2, CH_4, or N_2O, from Table AA–1 of this subpart (kg CO_2, CH_4, or N_2O per mmBtu).

0.90718 = Conversion factor from short tons to metric tons.

(b) For each chemical recovery combustion unit located at a sulfite or

stand-alone semichemical facility, you must determine CO_2, CH_4, and N_2O emissions using the procedures in paragraphs (b)(1) through (b)(4) of this section:

(1) Calculate fossil CO_2 emissions from fossil fuels from direct measurement of fossil fuels consumed and default emissions factors according to the Tier 1 Calculation Methodology for stationary combustion sources in § 98.33(a)(1). A higher tier from § 98.33(a) may be used to calculate fossil fuel-based CO_2 emissions if the respective monitoring and QA/QC requirements described in § 98.34 are met.

(2) Calculate CH_4 and N_2O emissions from fossil fuels from direct measurement of fossil fuels consumed, default or site-specific HHV, and default emissions factors and convert to metric tons of CO_2 equivalent according to the methodology for stationary combustion sources in § 98.33(c).

(3) Calculate biogenic CO_2 emissions using measured quantities of spent liquor solids fired and the carbon content of the spent liquor solids, according to Equation AA–2 of this section:

$$Biogenic\ CO_2 = \frac{44}{12} * \text{Solids} * \text{CC} * (0.90718) \qquad \text{(Eq. AA-2)}$$

Where:

Biogenic CO_2 = Annual CO_2 mass emissions for spent liquor solids combustion (metric tons per year).

Solids = Mass of the spent liquor solids combusted (short tons per year) determined according to § 98.274(b).

CC = Annual carbon content of the spent liquor solids, determined according to § 98.274(b) (percent by weight, expressed as a decimal fraction, e.g., 95% = 0.95).

44/12 = Ratio of molecular weights, CO_2 to carbon.

0.90718 = Conversion from short tons to metric tons.

(4) Calculate CH_4 and N_2O emissions from biomass using Equation AA–1 of this section and the default CH_4 and N_2O emissions factors for kraft facilities in Table AA–1 of this subpart and convert the CH_4 or N_2O emissions to metric tons of CO_2 equivalent by multiplying each annual CH_4 and N_2O emissions total by the appropriate global warming potential (GWP) factor from Table A–1 of subpart A of this part.

(c) For each pulp mill lime kiln located at a kraft or soda facility, you must determine CO_2, CH_4, and N_2O emissions using the procedures in paragraphs (c)(1) through (c)(3) of this section:

(1) Calculate CO_2 emissions from fossil fuel from direct measurement of fossil fuels consumed and default HHV and default emissions factors, according to the Tier 1 Calculation Methodology for stationary combustion sources in § 98.33(a)(1). A higher tier from § 98.33(a) may be used to calculate fossil fuel-based CO_2 emissions if the respective monitoring and QA/QC requirements described in § 98.34 are met.

(2) Calculate CH_4 and N_2O emissions from fossil fuel from direct measurement of fossil fuels consumed, default or site-specific HHV, and default emissions factors and convert to metric tons of CO_2 equivalent according to the methodology for stationary combustion sources in § 98.33(c); use the default HHV listed in Table C–1 of subpart C and the default CH_4 and N_2O emissions factors listed in Table AA–2 of this subpart.

(3) Biogenic CO_2 emissions from conversion of $CaCO_3$ to CaO are included in the biogenic CO_2 estimates calculated for the chemical recovery furnace in paragraph (a)(3) of this section.

(d) For makeup chemical use, you must calculate CO_2 emissions by using direct or indirect measurement of the quantity of chemicals added and ratios of the molecular weights of CO_2 and the makeup chemicals, according to Equation AA–3 of this section:

$$CO_2 = \left[M_{(CaCO_3)} * \frac{44}{100} + M_{(Na_2CO_3)} \frac{44}{105.99} \right] * 1000 \ kg/metric\ ton \qquad \text{(Eq. AA-3)}$$

Where:

CO_2 = CO_2 mass emissions from makeup chemicals (kilograms/yr).

M ($CaCO_3$) = Make-up quantity of $CaCO_3$ used for the reporting year (metric tons per year).

M ($NaCO_3$) = Make-up quantity of Na_2CO_3 used for the reporting year (metric tons per year).

44 = Molecular weight of CO_2.

100 = Molecular weight of $CaCO_3$.

105.99 = Molecular weight of Na_2CO_3.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79166, Dec. 17, 2010; 78 FR 71965, Nov. 29, 2013]

§ 98.274 Monitoring and QA/QC requirements.

(a) Each facility subject to this subpart must quality assure the GHG emissions data according to the applicable requirements in § 98.34. All QA/QC data must be available for inspection upon request.

(b) Fuel properties needed to perform the calculations in Equations AA–1 and AA–2 of this subpart must be determined according to paragraphs (b)(1) through (b)(3) of this section.

(1) High heat values of black liquor must be determined no less than annually using T684 om–06 Gross Heating Value of Black Liquor, TAPPI (incorporated by reference, *see* § 98.7). If measurements are performed more frequently than annually, then the high heat value used in Equation AA–1 of this subpart must be based on the average of the representative measurements made during the year.

(2) The annual mass of spent liquor solids must be determined using either of the methods specified in paragraph (b)(2)(i) or (b)(2)(ii) of this section.

(i) Measure the mass of spent liquor solids annually (or more frequently) using T–650 om–05 Solids Content of Black Liquor, TAPPI (incorporated by reference in § 98.7). If measurements are performed more frequently than annually, then the mass of spent liquor solids used in Equation AA–1 of this subpart must be based on the average of the representative measurements made during the year.

(ii) Determine the annual mass of spent liquor solids based on records of measurements made with an online measurement system that determines the mass of spent liquor solids fired in a chemical recovery furnace or chemical recovery combustion unit.

(3) Carbon analyses for spent pulping liquor must be determined no less than annually using ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, *see* § 98.7). If measurements using ASTM D5373–08 are performed more frequently than annually, then the spent pulping liquor carbon content used in Equation AA–2 of this subpart must be based on the average of the representative measurements made during the year.

(c) Each facility must keep records that include a detailed explanation of how company records of measurements are used to estimate GHG emissions. The owner or operator must also document the procedures used to ensure the accuracy of the measurements of fuel, spent liquor solids, and makeup chemical usage, including, but not limited to calibration of weighing equipment, fuel flow meters, and other measurement devices. The estimated accuracy of measurements made with these devices must be recorded and the technical basis for these estimates must be provided. The procedures used to convert spent pulping liquor flow rates to units of mass (i.e., spent liquor solids firing rates) also must be documented.

(d) Records must be made available upon request for verification of the calculations and measurements.

§ 98.275 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable (e.g.,

if a meter malfunctions during unit operation or if a required sample is not taken), a substitute data value for the missing parameter shall be used in the calculations, according to the requirements of paragraphs (a) through (c) of this section:

(a) There are no missing data procedures for measurements of heat content and carbon content of spent pulping liquor. A re-test must be performed if the data from any annual measurements are determined to be invalid.

(b) For missing measurements of the mass of spent liquor solids or spent pulping liquor flow rates, use the lesser value of either the maximum mass or fuel flow rate for the combustion unit, or the maximum mass or flow rate that the fuel meter can measure.

(c) For the use of makeup chemicals (carbonates), the substitute data value shall be the best available estimate of makeup chemical consumption, based on available data (e.g., past accounting records, production rates). The owner or operator shall document and keep records of the procedures used for all such estimates.

§ 98.276 Data reporting requirements.

In addition to the information required by § 98.3(c) and the applicable information required by § 98.36, each annual report must contain the information in paragraphs (a) through (l) of this section as applicable:

(a) Annual emissions of CO_2, biogenic CO_2, CH_4, biogenic CH_4 N_2O, and biogenic N_2O (metric tons per year).

(b) [Reserved]

(c) Basis for determining the annual mass of the spent liquor solids combusted (whether based on T650 om-05 Solids Content of Black Liquor, TAPPI (incorporated by reference, *see* § 98.7) or an online measurement system).

(d) [Reserved]

(e) The default emission factor for CO_2, CH_4, or N_2O, used in Equation AA–1 of this subpart (kg CO_2, CH_4, or N_2O per mmBtu).

(f)–(i) [Reserved]

(j) Annual steam purchases (pounds of steam per year).

(k) Total annual production of unbleached virgin chemical pulp produced onsite during the reporting year in air-dried metric tons per year. This total annual production value is the sum of all kraft, semichemical, soda, and sulfite pulp produced onsite, prior to bleaching, through all virgin pulping lines. Do not include mechanical pulp or secondary fiber repulped for paper production in the virgin pulp production total.

(l) For each pulp mill lime kiln, report the information specified in paragraphs (l)(1) and (2) of this section.

(1) The quantity of calcium oxide (CaO) produced (metric tons).

(2) The percent of annual heat input, individually for each fossil fuel type.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79166, Dec. 17, 2010; 78 FR 71965, Nov. 29, 2013; 79 FR 63797, Oct. 24, 2014]

§ 98.277 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain the records in paragraphs (a) through (g) of this section.

(a) GHG emission estimates (including separate estimates of biogenic CO_2) for each emissions source listed under § 98.270(b).

(b) Annual analyses of spent pulping liquor HHV for each chemical recovery furnace at kraft and soda facilities.

(c) Annual analyses of spent pulping liquor carbon content for each chemical recovery combustion unit at a sulfite or semichemical pulp facility.

(d) Annual quantity of spent liquor solids combusted in each chemical recovery furnace and chemical recovery combustion unit, and the basis for detemining the annual quantity of the spent liquor solids combusted (whether based on T650 om–05 Solids Content of Black Liquor, TAPPI (incorporated by reference, *see* § 98.7) or an online measurement system). If an online measurement system is used, you must retain records of the calculations used to determine the annual quantity of spent liquor solids combusted from the continuous measurements.

(e) Annual steam purchases.

(f) Annual quantities of makeup chemicals used.

(g) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable

data specified in paragraphs (g)(1) through (27) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (g)(1) through (27) of this section.

(1) Mass of the solid fuel combusted (tons/year) (Equation C–1 of § 98.33).

(2) Volume of the liquid fuel combusted (gallons/year) (Equation C–1).

(3) Volume of the gaseous fuel combusted (scf/year) (Equation C–1).

(4) Annual natural gas usage (therms/year) (Equation C–1a of § 98.33).

(5) Annual natural gas usage (mmBtu/year) (Equation C–1b of § 98.33).

(6) Mass of the solid fuel combusted (tons/year) (Equation C–2a of § 98.33).

(7) Volume of the liquid fuel combusted (gallons/year) (Equation C–2a).

(8) Volume of the gaseous fuel combusted (scf/year) (Equation C–2a).

(9) Annual mass of the solid fuel combusted (short tons/year) (Equation C–3 of § 98.33).

(10) Annual average carbon content of the solid fuel (percent by weight, expressed as a decimal fraction) (Equation C–3).

(11) Annual volume of the liquid fuel combusted (gallons/year) (Equation C–4 of § 98.33).

(12) Annual average carbon content of the liquid fuel (kg C per gallon of fuel) (Equation C–4).

(13) Annual volume of the gaseous fuel combusted (scf/year) (Equation C–5 of § 98.33).

(14) Annual average carbon content of the gaseous fuel (kg C per kg of fuel) (Equation C–5).

(15) Annual average molecular weight of the gaseous fuel (kg/kg-mole) (Equation C–5).

(16) Molar volume conversion factor at standard conditions, as defined in § 98.6 (scf per kg-mole) (Equation C–5).

(17) Identify if you will use the default high heat value from Table C–1 of subpart C of this part, or actual HHV data (Equation C–8 of § 98.33).

(18) High heat value of the fuel (mmBTU/tons) (Equation C–8).

(19) High heat value of the fuel (mmBTU/gallons) (Equation C–8).

(20) High heat value of the fuel (mmBTU/scf) (Equation C–8).

(21) Mass of spent liquor solids combusted from each chemical recovery furnace located at a kraft or soda facility, in short tons in year, determined according to § 98.274(b) (tons/year) (Equation AA–1 of § 98.273).

(22) Annual high heat value of the spent liquor solids from each chemical recovery furnace located at a kraft or soda facility determined according to § 98.274(b) (mmBtu per kilogram) (Equation AA–1).

(23) Annual high heat value of the spent liquor solids from each chemical recovery combustion unit located at a sulfite or stand-alone semichemical facility, determined according to § 98.274(b) (mmBtu per kilogram) (Equation AA–1).

(24) Mass of the spent liquor solids combusted in short tons per year determined according to § 98.274(b) (tons/year) (Equation AA–2 of § 98.273).

(25) Annual carbon content of the spent liquor solids, determined according to § 98.274(b) (percent by weight, expressed as a decimal fraction (e.g., 95% = 0.95)) (Equation AA–2).

(26) Make-up quantity of $CaCO_3$ used for the reporting year (metric tons/year) (Equation AA–3 of § 98.273).

(27) Make-up quantity of Na_2CO_3 used for the reporting year metric tons/year) (Equation AA–3).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63798, Oct. 24, 2014]

§ 98.278 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE AA–1 TO SUBPART AA OF PART 98—KRAFT PULPING LIQUOR EMISSIONS FACTORS FOR BIOMASS-BASED CO_2, CH_4, AND N_2O

Wood furnish	Biomass-based emissions factors (kg/mmBtu HHV)		
	[a] CO_2	CH_4	N_2O
North American Softwood	94.4	0.0019	0.00042
North American Hardwood	93.7	0.0019	0.00042

Wood furnish	Biomass-based emissions factors (kg/mmBtu HHV)		
	[a] CO_2	CH_4	N_2O
Bagasse	95.5	0.0019	0.00042
Bamboo	93.7	0.0019	0.00042
Straw	95.1	0.0019	0.00042

[a] Includes emissions from both the recovery furnace and pulp mill lime kiln.

[78 FR 71965, Nov. 29, 2013]

TABLE AA–2 TO SUBPART AA OF PART 98—KRAFT LIME KILN AND CALCINER EMISSIONS FACTORS FOR CH_4 AND N_2O

Fuel	Fossil fuel-based emissions factors (kg/mmBtu HHV)			
	Kraft lime kilns		Kraft calciners	
	CH_4	N_2O	CH_4	N_2O
Residual Oil (any type)	0.0027	0	0.0027	0.0003
Distillate Oil (any type)	0.0027	0	0.0027	0.0004
Natural Gas	0.0027	0	0.0027	0.0001
Biogas	0.0027	0	0.0027	0.0001
Petroleum coke	0.0027	0	[a]NA	[a]NA
Other Fuels	See Table C–2	0	See Table C–2	See Table C–2

[a] Emission factors for kraft calciners are not available.

[78 FR 71965, Nov. 29, 2013]

Subpart BB—Silicon Carbide Production

§ 98.280 Definition of the source category.

Silicon carbide production includes any process that produces silicon carbide for abrasive purposes.

§ 98.281 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a silicon carbide production process and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.282 GHGs to report.

You must report:

(a) CO_2 process emissions from all silicon carbide process units or furnaces combined.

(b) CO_2, CH_4, and N_2O emissions from each stationary combustion unit. You must report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71966, Nov. 29, 2013]

§ 98.283 Calculating GHG emissions.

You must calculate and report the combined annual process CO_2 emissions from all silicon carbide process units and production furnaces using the procedures in either paragraph (a) or (b) of this section.

(a) Calculate and report under this subpart the combined annual process CO_2 emissions by operating and maintaining CEMS according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) Calculate and report under this subpart the combined annual process CO_2 emissions using the procedures in paragraphs (b)(1) and (b)(2) of this section.

(1) Use Equation BB–1 of this section to calculate the facility-specific emissions factor for determining CO_2 emissions. The carbon content must be measured monthly and used to calculate a monthly CO_2 emissions factor:

$$EF_{CO2,n} = 0.65 * CCF_n * \left(\frac{44}{12}\right) \qquad \text{(Eq. BB-1)}$$

Where:

$EF_{CO2,n}$ = CO_2 emissions factor in month n (metric tons CO_2/metric ton of petroleum coke consumed).

0.65 = Adjustment factor for the amount of carbon in silicon carbide product (assuming 35 percent of carbon input is in the carbide product).

CCF_n = Carbon content factor for petroleum coke consumed in month n from the supplier or as measured by the applicable method incorporated by reference in § 98.7 according to § 98.284(c) (percent by weight expressed as a decimal fraction).

44/12 = Ratio of molecular weights, CO_2 to carbon.

(2) Calculate annual CO_2 process emissions from the silicon carbide production facility according to Equation BB–2 of this section:

$$CO_2 = \sum_{n=1}^{12} \left[T_n * EF_{CO2,n} \right] * \frac{2000}{2205} \qquad \text{(Eq. BB-2)}$$

Where:

CO_2 = Annual CO_2 emissions from silicon carbide production facility (metric tons CO_2).

T_n = Petroleum coke consumption in calendar month n (tons).

$EF_{CO2,n}$ = CO_2 emissions factor from month n (calculated in Equation BB–1 of this section).

2000/2205 = Conversion factor to convert tons to metric tons.

n = Number of month.

(c) If GHG emissions from a silicon carbide production furnace or process unit are vented through the same stack as any combustion unit or process equipment that reports CO_2 emissions using a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Fuel Combustion Sources), then the calculation methodology in paragraph (b) of this section shall not be used to calculate process emissions. The owner or operator shall report under this subpart the combined stack emissions according to the Tier 4 Calculation Methodology in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71966, Nov. 29, 2013]

§ 98.284 Monitoring and QA/QC requirements.

(a) You must measure your consumption of petroleum coke using plant instruments used for accounting purposes including direct measurement weighing the petroleum coke fed into your process (by belt scales or a similar device) or through the use of purchase records.

(b) You must document the procedures used to ensure the accuracy of monthly petroleum coke consumption measurements.

(c) For CO_2 process emissions, you must determine the monthly carbon content of the petroleum coke using reports from the supplier. Alternatively, facilities can measure monthly carbon contents of the petroleum coke using ASTM D3176–89 (Reapproved 2002) Standard Practice for Ultimate Analysis of Coal and Coke (incorporated by reference, *see* § 98.7) and ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, *see* § 98.7).

(d) For quality assurance and quality control of the supplier data, you must conduct an annual measurement of the carbon content of the petroleum coke using ASTM D3176–89 and ASTM D5373–

08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, *see* § 98.7).

§ 98.285 Procedures for estimating missing data.

For the petroleum coke input procedure in § 98.283(b), a complete record of all measured parameters used in the GHG emissions calculations is required (e.g., carbon content values, etc.). Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in the paragraphs (a) and (b) of this section. You must document and keep records of the procedures used for all such estimates.

(a) For each missing value of the monthly carbon content of petroleum coke, the substitute data value shall be the arithmetic average of the quality-assured values of carbon contents immediately preceding and immediately following the missing data incident. If no quality-assured data on carbon contents are available prior to the missing data incident, the substitute data value shall be the first quality-assured value for carbon contents obtained after the missing data period.

(b) For each missing value of the monthly petroleum coke consumption, the substitute data value shall be the best available estimate of the petroleum coke consumption based on all available process data or information used for accounting purposes (such as purchase records).

§ 98.286 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) or (b) of this section, as applicable for each silicon carbide production facility.

(a) If a CEMS is used to measure process CO_2 emissions, you must report under this subpart the relevant information required for the Tier 4 Calculation Methodology in § 98.36 and the information listed in this paragraph (a):

(1) Annual consumption of petroleum coke (tons).

(2) Annual production of silicon carbide (tons).

(3) Annual production capacity of silicon carbide (tons).

(b) If a CEMS is not used to measure process CO_2 emissions, you must report the information in paragraph (b)(1) through (8) of this section for all silicon carbide process units or production furnaces combined:

(1) [Reserved]

(2) *Annual production of* silicon carbide (tons).

(3) Annual production capacity of silicon carbide (tons).

(4) [Reserved]

(5) Whether carbon content of the petroleum coke is based on reports from the supplier or through self measurement using applicable ASTM standard method.

(6) [Reserved]

(7) Sampling analysis results for carbon content of consumed petroleum coke as determined for QA/QC of supplier data under § 98.284(d) (percent by weight expressed as a decimal fraction).

(8) Number of times in the reporting year that missing data procedures were followed to measure the carbon contents of petroleum coke (number of months) and petroleum coke consumption (number of months).

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71966, Nov. 29, 2013; 79 FR 63798, Oct. 24, 2014]

§ 98.287 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) through (c) of this section for each silicon carbide production facility.

(a) If a CEMS is used to measure CO_2 emissions, you must retain under this subpart the records required for the Tier 4 Calculation Methodology in § 98.37 and the information listed in this paragraph (a):

(1) Records of all petroleum coke purchases.

(2) Annual operating hours.

(b) If a CEMS is not used to measure emissions, you must retain records for the information listed in this paragraph (b):

(1) Records of all analyses and calculations conducted for reported data listed in § 98.286(b).

(2) Records of all petroleum coke purchases.

(3) Annual operating hours.

(c) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (c)(1) and (2) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (c)(1) and (2) of this section.

(1) Carbon content factor for petroleum coke consumed in month from the supplier or as measured by the applicable method (percent by weight expressed as a decimal fraction) (Equation BB–1 of § 98.283).

(2) Petroleum coke consumption in month (tons) (Equation BB–2 of § 98.283).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63798, Oct. 24, 2014]

§ 98.288 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart CC—Soda Ash Manufacturing

§ 98.290 Definition of the source category.

(a) A soda ash manufacturing facility is any facility with a manufacturing line that produces soda ash by one of the methods in paragraphs (a)(1) through (3) of this section:

(1) Calcining trona.

(2) Calcining sodium sesquicarbonate.

(3) Using a liquid alkaline feedstock process that directly produces CO_2.

(b) In the context of the soda ash manufacturing sector, ''calcining'' means the thermal/chemical conversion of the bicarbonate fraction of the feedstock to sodium carbonate.

§ 98.291 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a soda ash manufacturing process and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.292 GHGs to report.

You must report:

(a) CO_2 process emissions from each soda ash manufacturing line combined.

(b) CO_2 combustion emissions from each soda ash manufacturing line.

(c) CH_4 and N_2O combustion emissions from each soda ash manufacturing line. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

(d) CO_2, CH_4, and N_2O emissions from each stationary combustion unit other than soda ash manufacturing lines. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

§ 98.293 Calculating GHG emissions.

You must calculate and report the annual process CO_2 emissions from each soda ash manufacturing line using the procedures specified in paragraph (a) or (b) of this section.

(a) For each soda ash manufacturing line that meets the conditions specified in § 98.33(b)(4)(ii) or (b)(4)(iii), you must calculate and report under this subpart the combined process and combustion CO_2 emissions by operating and maintaining a CEMS to measure CO_2 emissions according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) For each soda ash manufacturing line that is not subject to the requirements in paragraph (a) of this section, calculate and report the process CO_2 emissions from the soda ash manufacturing line by using the procedure in either paragraphs (b)(1), (b)(2), or (b)(3) of this section; and the combustion CO_2 emissions using the procedure in paragraph (b)(4) of this section.

(1) Calculate and report under this subpart the combined process and combustion CO_2 emissions by operating and maintaining a CEMS to measure CO_2 emissions according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this

part (General Stationary Fuel Combustion Sources).

(2) Use either Equation CC–1 or Equation CC–2 of this section to calculate annual CO_2 process emissions from each manufacturing line that calcines trona to produce soda ash:

$$E_k = \sum_{n=1}^{12} \left[(IC_T)_n * (T_t)_n \right] * \frac{2000}{2205} * \frac{0.097}{1} \qquad \text{(Eq. CC-1)}$$

$$E_k = \sum_{n=1}^{12} \left[(IC_{sa})_n * (T_{sa})_n \right] * \frac{2000}{2205} * \frac{0.138}{1} \qquad \text{(Eq. CC-2)}$$

Where:

E_k = Annual CO_2 process emissions from each manufacturing line, k (metric tons).

$(IC_T)_n$ = Inorganic carbon content (percent by weight, expressed as a decimal fraction) in trona input, from the carbon analysis results for month n. This represents the ratio of trona to trona ore.

$(IC_{sa})_n$ = Inorganic carbon content (percent by weight, expressed as a decimal fraction) in soda ash output, from the carbon analysis results for month n. This represents the purity of the soda ash produced.

$(T_t)_n$ = Mass of trona input in month n (tons).

$(T_{sa})_n$ = Mass of soda ash output in month n (tons).

2000/2205 = Conversion factor to convert tons to metric tons.

0.097/1 = Ratio of ton of CO_2 emitted for each ton of trona.

0.138/1 = Ratio of ton of CO_2 emitted for each ton of soda ash produced.

(3) *Site-specific emission factor method.* Use Equations CC–3, CC–4, and CC–5 of this section to determine annual CO_2 process emissions from manufacturing lines that use the liquid alkaline feedstock process to produce soda ash. You must conduct an annual performance test and measure CO_2 emissions and flow rates at all process vents from the mine water stripper/evaporator for each manufacturing line and calculate CO_2 emissions as described in paragraphs (b)(3)(i) through (b)(3)(iv) of this section.

(i) During the performance test, you must measure the process vent flow from each process vent during the test and calculate the average rate for the test period in metric tons per hour.

(ii) Using the test data, you must calculate the hourly CO_2 emission rate using Equation CC–3 of this section:

$$ER_{CO2} = \left[(C_{co2} * 10000) * 2.59x10^{-9} * 44 \right] * (Q * 60) * 4.53x10^{-4} \qquad \text{(Eq. CC-3)}$$

Where:

ER_{CO2} = CO_2 mass emission rate (metric tons/hour).

C_{CO2} = Hourly CO_2 concentration (percent CO_2) as determined by § 98.294(c).

10000 = Parts per million per percent

2.59×10^{-9} = Conversion factor (pounds-mole/dscf/ppm).

44 = Pounds per pound-mole of carbon dioxide.

Q = Stack gas volumetric flow rate per minute (dscfm).

60 = Minutes per hour

4.53×10^{-4} = Conversion factor (metric tons/pound)

(iii) Using the test data, you must calculate a CO_2 emission factor for the process using Equation CC–4 of this section:

$$EF_{CO2} = \frac{ER_{CO2}}{\left(V_t * 4.53x10^{-4} \right)} \qquad \text{(Eq. CC-4)}$$

Where:

EF_{CO2} = CO_2 emission factor (metric tons CO_2/metric ton of process vent flow from mine water stripper/evaporator).

ER_{CO2} = CO_2 mass emission rate (metric tons/hour).
V_t = Process vent flow rate from mine water stripper/evaporator during annual performance test (pounds/hour).
4.53×10^{-4} = Conversion factor (metric tons/pound)

(iv) You must calculate annual CO_2 process emissions from each manufacturing line using Equation CC–5 of this section:

$$E_k = EF_{CO2} * (V_a * 0.453) * H \qquad \text{(Eq. CC-5)}$$

Where:
E_k = Annual CO_2 process emissions for each manufacturing line, k (metric tons).
EF_{CO2} = CO_2 emission factor (metric tons CO_2/metric ton of process vent flow from mine water stripper/evaporator).
V_a = Annual process vent flow rate from mine water stripper/evaporator (thousand pounds/hour).
H = Annual operating hours for the each manufacturing line.
0.453 = Conversion factor (metric tons/thousand pounds).

(4) Calculate and report under subpart C of this part (General Stationary Fuel Combustion Sources) the combustion CO_2, CH_4, and N_2O emissions in the soda ash manufacturing line according to the applicable requirements in subpart C.

§ 98.294 Monitoring and QA/QC requirements.

Section 98.293 provides three different procedures for emission calculations. The appropriate paragraphs (a) through (c) of this section should be used for the procedure chosen.

(a) If you determine your emissions using § 98.293(b)(2) (Equation CC–1 of this subpart) you must:

(1) Determine the monthly inorganic carbon content of the trona from a weekly composite analysis for each soda ash manufacturing line, using a modified version of ASTM E359–00 (Reapproved 2005)e1, Standard Test Methods for Analysis of Soda Ash (Sodium Carbonate) (incorporated by reference, see § 98.7). ASTM E359–00(Reapproved 2005) e1 is designed to measure the total alkalinity in soda ash not in trona. The modified method referred to above adjusts the regular ASTM method to express the results in terms of trona. Although ASTM E359–00 (Reapproved 2005) e1 uses manual titration, suitable autotitrators may also be used for this determination.

(2) Measure the mass of trona input produced by each soda ash manufacturing line on a monthly basis using belt scales or methods used for accounting purposes.

(3) Document the procedures used to ensure the accuracy of the monthly measurements of trona consumed.

(b) If you calculate CO_2 process emissions based on soda ash production (§ 98.293(b)(2) Equation CC–2 of this subpart), you must:

(1) Determine the inorganic carbon content of the soda ash (i.e., soda ash purity) using ASTM E359–00 (Reapproved 2005) e1 Standard Test Methods for Analysis of Soda Ash (Sodium Carbonate) (incorporated by reference, see § 98.7). Although ASTM E359–00 (Reapproved 2005) e1 uses manual titration, suitable autotitrators may also be used for this determination.

(2) Measure the mass of soda ash produced by each soda ash manufacturing line on a monthly basis using belt scales, by weighing the soda ash at the truck or rail loadout points of your facility, or methods used for accounting purposes.

(3) Document the procedures used to ensure the accuracy of the monthly measurements of soda ash produced.

(c) If you calculate CO_2 emissions using the site-specific emission factor method in § 98.293(b)(3), you must:

(1) Conduct an annual performance test that is based on representative performance (i.e., performance based on normal operating conditions) of the affected process.

(2) Sample the stack gas and conduct three emissions test runs of 1 hour each.

(3) Conduct the stack test using EPA Method 3A at 40 CFR part 60, appendix

A–2 to measure the CO_2 concentration, Method 2, 2A, 2C, 2D, or 2F at 40 CFR part 60, appendix A–1 or Method 26 at 40 CFR part 60, appendix A–2 to determine the stack gas volumetric flow rate. All QA/QC procedures specified in the reference test methods and any associated performance specifications apply. For each test, the facility must prepare an emission factor determination report that must include the items in paragraphs (c)(3)(i) through (c)(3)(iii) of this section.

(i) Analysis of samples, determination of emissions, and raw data.

(ii) All information and data used to derive the emissions factor(s).

(iii) You must determine the average process vent flow rate from the mine water stripper/evaporater during each test and document how it was determined.

(4) You must also determine the annual vent flow rate from the mine water stripper/evaporater from monthly information using the same plant instruments or procedures used for accounting purposes (i.e., volumetric flow meter).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66469, Oct. 28, 2010]

§ 98.295 Procedures for estimating missing data.

For the emission calculation methodologies in § 98.293(b)(2) and (b)(3), a complete record of all measured parameters used in the GHG emissions calculations is required (e.g., inorganic carbon content values, etc.). Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in the paragraphs (a) through (d) of this section. You must document and keep records of the procedures used for all such missing value estimates.

(a) For each missing value of the weekly composite of inorganic carbon content of either soda ash or trona, the substitute data value shall be the arithmetic average of the quality-assured values of inorganic carbon contents from the week immediately preceding and the week immediately following the missing data incident. If no quality-assured data on inorganic carbon contents are available prior to the missing data incident, the substitute data value shall be the first quality-assured value for carbon contents obtained after the missing data period.

(b) For each missing value of either the monthly soda ash production or the trona consumption, the substitute data value shall be the best available estimate(s) of the parameter(s), based on all available process data or data used for accounting purposes.

(c) For each missing value collected during the performance test (hourly CO_2 concentration, stack gas volumetric flow rate, or average process vent flow from mine water stripper/evaporator during performance test), you must repeat the annual performance test following the calculation and monitoring and QA/QC requirements under §§ 98.293(b)(3) and 98.294(c).

(d) For each missing value of the monthly process vent flow rate from mine water stripper/evaporator, the subsititute data value shall be the best available estimate(s) of the parameter(s), based on all available process data or the lesser of the maximum capacity of the system or the maximum rate the meter can measure.

§ 98.296 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) or (b) of this section, as appropriate for each soda ash manufacturing facility.

(a) If a CEMS is used to measure CO_2 emissions, then you must report under this subpart the relevant information required under § 98.36 and the following information in this paragraph (a):

(1) Annual consumption of trona or liquid alkaline feedstock for each manufacturing line (tons).

(2) Annual production of soda ash for each manufacturing line (tons).

(3) Annual production capacity of soda ash for each manufacturing line (tons).

(4) Identification number of each manufacturing line.

(b) If a CEMS is not used to measure CO_2 emissions, then you must report the information listed in this paragraph (b):

(1) Identification number of each manufacturing line.

(2) Annual process CO_2 emissions from each soda ash manufacturing line (metric tons).

(3) Annual production of soda ash for each manufacturing line (tons).

(4) Annual production capacity of soda ash for each manufacturing line (tons).

(5)–(7) [Reserved]

(8) Whether CO_2 emissions for each manufacturing line were calculated using a trona input method as described in Equation CC–1 of this subpart, a soda ash output method as described in Equation CC–2 of this subpart, or a site-specific emission factor method as described in Equations CC–3 through CC–5 of this subpart.

(9) Number of manufacturing lines located used to produce soda ash.

(10) If you produce soda ash using the liquid alkaline feedstock process and use the site-specific emission factor method (§ 98.293(b)(3)) to estimate emissions then you must report the following relevant information for each manufacturing line or stack:

(i) Stack gas volumetric flow rate during performance test (dscfm).

(ii) Hourly CO_2 concentration during performance test (percent CO_2).

(iii) CO_2 emission factor (metric tons CO_2/metric tons of process vent flow from mine water stripper/evaporator).

(iv) CO_2 mass emission rate during performance test (metric tons/hour).

(v) Average process vent flow from mine water stripper/evaporator during performance test (pounds/hour).

(vi) Annual process vent flow rate from mine water stripper/evaporator (thousand pounds/hour).

(11) Number of times missing data procedures were used and for which parameter as specified in this paragraph (b)(11):

(i) Trona or soda ash (number of months).

(ii) Inorganic carbon contents of trona or soda ash (weeks).

(iii) Process vent flow rate from mine water stripper/evaporator (number of months).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66469, Oct. 28, 2010; 79 FR 63798, Oct. 24, 2014]

§ 98.297 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) through (c) of this section for each soda ash manufacturing line.

(a) If a CEMS is used to measure CO_2 emissions, then you must retain under this subpart the records required for the Tier 4 Calculation Methodology specified in subpart C of this part and the information listed in this paragraph (a):

(1) Monthly production of soda ash (tons)

(2) Monthly consumption of trona or liquid alkaline feedstock (tons)

(3) Annual operating hours (hours).

(b) If a CEMS is not used to measure emissions, then you must retain records for the information listed in this paragraph (b):

(1) Records of all analyses and calculations conducted for determining all reported data as listed in § 98.296(b).

(2) If using Equation CC–1 or CC–2 of this subpart, weekly inorganic carbon content factor of trona or soda ash, depending on method chosen, as measured by the applicable method in § 98.294(b) (percent by weight expressed as a decimal fraction).

(3) Annual operating hours for each manufacturing line used to produce soda ash (hours).

(4) You must document the procedures used to ensure the accuracy of the monthly trona consumption or soda ash production measurements including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

(5) If you produce soda ash using the liquid alkaline feedstock process and use the site-specific emission factor method to estimate emissions (§ 98.293(b)(3)) then you must also retain the following relevant information:

(i) Records of performance test results.

(ii) You must document the procedures used to ensure the accuracy of the annual average vent flow measurements including, but not limited to,

calibration of flow rate meters and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

(c) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (c)(1) through (4) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (c)(1) through (4) of this section

(1) Inorganic carbon content in trona input, from the carbon analysis results for month (percent by weight, expressed as a decimal fraction) (Equation CC–1 of § 98.293).

(2) Mass of trona input in month (tons) (Equation CC–1).

(3) Inorganic carbon content in soda ash output, from the carbon analysis results for month (percent by weight, expressed as a decimal fraction) (Equation CC–2 of § 98.293).

(4) Mass of soda ash output in month (tons) (Equation CC–2).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63798, Oct. 24, 2014]

§ 98.298 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart DD—Electrical Transmission and Distribution Equipment Use

SOURCE: 75 FR 74855, Dec. 1, 2010, unless otherwise noted.

§ 98.300 Definition of the source category.

(a) The electrical transmission and distribution equipment use source category consists of all electric transmission and distribution equipment and servicing inventory insulated with or containing sulfur hexafluoride (SF_6) or perfluorocarbons (PFCs) used within an electric power system. Electric transmission and distribution equipment and servicing inventory includes, but is not limited to:

(1) Gas-insulated substations.

(2) Circuit breakers.

(3) Switchgear, including closed-pressure and hermetically sealed-pressure switchgear and gas-insulated lines containing SF_6 or PFCs.

(4) Gas containers such as pressurized cylinders.

(5) Gas carts.

(6) Electric power transformers.

(7) Other containers of SF_6 or PFC.

§ 98.301 Reporting threshold.

(a) You must report GHG emissions from an electric power system if the total nameplate capacity of SF_6 and PFC containing equipment (excluding hermetically sealed-pressure equipment) located within the facility, when added to the total nameplate capacity of SF_6 and PFC containing equipment (excluding hermetically sealed-pressure equipment) that is not located within the facility but is under common ownership or control, exceeds 17,820 pounds and the facility meets the requirements of § 98.2(a)(1).

(b) A facility other than an electric power system that is subject to this part because of emissions from any other source category listed in Table A–3 or A–4 in subpart A of this part is not required to report emissions under subpart DD of this part unless the total nameplate capacity of SF_6 and PFC containing equipment located within that facility exceeds 17,820 pounds.

§ 98.302 GHGs to report.

You must report total SF_6 and PFC emissions from your facility (including emissions from fugitive equipment leaks, installation, servicing, equipment decommissioning and disposal, and from storage cylinders) resulting from the transmission and distribution servicing inventory and equipment listed in § 98.300(a). For acquisitions of equipment containing or insulated with SF_6 or PFCs, you must report emissions from the equipment after the title to the equipment is transferred to the electric power transmission or distribution entity.

§ 98.303 Calculating GHG emissions.

(a) Calculate the annual SF_6 and PFC emissions using the mass-balance approach in Equation DD–1 of this section:

User Emissions = (Decrease in SF_6 Inventory) + (Acquisitions of SF_6) – (Disbursements of SF_6) – (Net Increase in Total Nameplate Capacity of Equipment Operated)

(Eq. DD-1)

where:

Decrease in SF_6 Inventory = (pounds of SF_6 stored in containers, but not in energized equipment, at the beginning of the year) – (pounds of SF_6 stored in containers, but not in energized equipment, at the end of the year).

Acquisitions of SF_6 = (pounds of SF_6 purchased from chemical producers or distributors in bulk) + (pounds of SF_6 purchased from equipment manufacturers or distributors with or inside equipment, including hermetically sealed-pressure switchgear) + (pounds of SF_6 returned to facility after off-site recycling).

Disbursements of SF_6 = (pounds of SF_6 in bulk and contained in equipment that is sold to other entities) + (pounds of SF_6 returned to suppliers) + (pounds of SF_6 sent off site for recycling) + (pounds of SF_6 sent off-site for destruction).

Net Increase in Total Nameplate Capacity of Equipment Operated = (The Nameplate Capacity of new equipment in pounds, including hermetically sealed-pressure switchgear) – (Nameplate Capacity of retiring equipment in pounds, including hermetically sealed-pressure switchgear). (Note that Nameplate Capacity refers to the full and proper charge of equipment rather than to the actual charge, which may reflect leakage).

(b) Use Equation DD–1 of this section to estimate emissions of PFCs from power transformers, substituting the relevant PFC(s) for SF_6 in the equation.

§ 98.304 Monitoring and QA/QC requirements.

(a) For calendar year 2011 monitoring, you may follow the provisions of § 98.3(d)(1) through (d)(2) for best available monitoring methods rather than follow the monitoring requirements of this section. For purposes of this subpart, any reference in § 98.3(d)(1) through (d)(2) to 2010 means 2011, to March 31 means June 30, and to April 1 means July 1. Any reference to the effective date in § 98.3(d)(1) through (d)(2) means February 28, 2011.

(b) You must adhere to the following QA/QC methods for reviewing the completeness and accuracy of reporting:

(1) Review inputs to Equation DD–1 of this section to ensure inputs and outputs to the company's system are included.

(2) Do not enter negative inputs and confirm that negative emissions are not calculated. However, the Decrease in SF_6 Inventory and the Net Increase in Total Nameplate Capacity may be calculated as negative numbers.

(3) Ensure that beginning-of-year inventory matches end-of-year inventory from the previous year.

(4) Ensure that in addition to SF_6 purchased from bulk gas distributors, SF_6 purchased from Original Equipment Manufacturers (OEM) and SF_6 returned to the facility from off-site recycling are also accounted for among the total additions.

(c) Ensure the following QA/QC methods are employed throughout the year:

(1) Ensure that cylinders returned to the gas supplier are consistently weighed on a scale that is certified to be accurate and precise to within 2 pounds of true weight and is periodically recalibrated per the manufacturer's specifications. Either measure residual gas (the amount of gas remaining in returned cylinders) or have the gas supplier measure it. If the gas supplier weighs the residual gas, obtain from the gas supplier a detailed monthly accounting, within ± 2 pounds, of residual gas amounts in the cylinders returned to the gas supplier.

(2) Ensure that cylinders weighed for the beginning and end of year inventory measurements are weighed on a scale that is certified to be accurate and precise to within 2 pounds of true weight and is periodically recalibrated per the manufacturer's specifications. All scales used to measure quantities that are to be reported under § 98.306 must be calibrated using calibration

procedures specified by the scale manufacturer. Calibration must be performed prior to the first reporting year. After the initial calibration, recalibration must be performed at the minimum frequency specified by the manufacturer.

(3) Ensure all substations have provided information to the manager compiling the emissions report (if it is not already handled through an electronic inventory system).

(d) GHG Monitoring Plans, as described in § 98.3(g)(5), must be completed by April 1, 2011.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71966, Nov. 29, 2013]

§ 98.305 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required. Replace missing data, if needed, based on data from equipment with a similar nameplate capacity for SF_6 and PFC, and from similar equipment repair, replacement, and maintenance operations.

§ 98.306 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the following information for each electric power system, by chemical:

(a) Nameplate capacity of equipment (pounds) containing SF_6 and nameplate capacity of equipment (pounds) containing each PFC:

(1) Existing at the beginning of the year (excluding hermetically sealed-pressure switchgear).

(2) New during the year (all SF_6-insulated equipment, including hermetically sealed-pressure switchgear).

(3) Retired during the year (all SF_6-insulated equipment, including hermetically sealed-pressure switchgear).

(b) Transmission miles (length of lines carrying voltages above 35 kilovolt).

(c) Distribution miles (length of lines carrying voltages at or below 35 kilovolt).

(d) Pounds of SF_6 and PFC stored in containers, but not in energized equipment, at the beginning of the year.

(e) Pounds of SF6 and PFC stored in containers, but not in energized equipment, at the end of the year.

(f) Pounds of SF_6 and PFC purchased in bulk from chemical producers or distributors.

(g) Pounds of SF_6 and PFC purchased from equipment manufacturers or distributors with or inside equipment, including hermetically sealed-pressure switchgear.

(h) Pounds of SF_6 and PFC returned to facility after off-site recycling.

(i) Pounds of SF_6 and PFC in bulk and contained in equipment sold to other entities.

(j) Pounds of SF_6 and PFC returned to suppliers.

(k) Pounds of SF_6 and PFC sent off-site for recycling.

(l) Pounds of SF_6 and PFC sent off-site for destruction.

§ 98.307 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain records of the information reported and listed in § 98.306.

§ 98.308 Definitions.

Except as specified in this section, all terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Facility, with respect to an electric power system, means the electric power system as defined in this paragraph. An electric power system is comprised of all electric transmission and distribution equipment insulated with or containing SF_6 or PFCs that is linked through electric power transmission or distribution lines and functions as an integrated unit, that is owned, serviced, or maintained by a single electric power transmission or distribution entity (or multiple entities with a common owner), and that is located between: (1) The point(s) at which electric energy is obtained from an electricity generating unit or a different electric power transmission or distribution entity that does not have a common owner, and (2) the point(s) at which any customer or another electric power transmission or distribution entity that does not have a common owner receives the electric energy. The

facility also includes servicing inventory for such equipment that contains SF_6 or PFCs.

Electric power transmission or distribution entity means any entity that transmits, distributes, or supplies electricity to a consumer or other user, including any company, electric cooperative, public electric supply corporation, a similar Federal department (including the Bureau of Reclamation or the Corps of Engineers), a municipally owned electric department offering service to the public, an electric public utility district, or a jointly owned electric supply project.

Operator, for the purposes of this subpart, means any person who operates or supervises a facility, excluding a person whose sole responsibility is to ensure reliability, balance load or otherwise address electricity flow.

Subpart EE—Titanium Dioxide Production

§ 98.310 Definition of the source category.

The titanium dioxide production source category consists of facilities that use the chloride process to produce titanium dioxide.

§ 98.311 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a titanium dioxide production process and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

§ 98.312 GHGs to report.

(a) You must report CO_2 process emissions from each chloride process line as required in this subpart.

(b) You must report CO_2, CH_4, and N_2O emissions from each stationary combustion unit under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

§ 98.313 Calculating GHG emissions.

You must calculate and report the annual process CO_2 emissions for each chloride process line using the procedures in either paragraph (a) or (b) of this section.

(a) Calculate and report under this subpart the process CO_2 emissions by operating and maintaining a CEMS according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) Calculate and report under this subpart the annual process CO_2 emissions for each chloride process line by determining the mass of calcined petroleum coke consumed in each line as specified in paragraphs (b)(1) through (b)(3) of this section. Use Equation EE–1 of this section to calulate annual combined process CO_2 emissions from all process lines and use Equation EE–2 of this section to calculate annual process CO_2 emissions for each process line. If your facility generates carbon-containing waste, use Equation EE–3 of this section to estimate the annual quantity of carbon-containing waste generated and its carbon contents according to § 98.314(e) and (f):

(1) You must calculate the annual CO_2 process emissions from all process lines at the facility using Equation EE–1 of this section:

$$CO_2 = \sum_{p=1}^{m} E_p \qquad \text{(Eq. EE-1)}$$

Where:

CO_2 = Annual CO_2 emissions from titanium dioxide production facility (metric tons/year).

E_p = Annual CO_2 emissions from chloride process line p (metric tons), determined using Equation EE–2 of this section.

p = Process line.

m = Number of separate chloride process lines located at the facility.

(2) You must calculate the annual CO_2 process emissions from each process lines at the facility using Equation EE–2 of this section:

$$E_p = \sum_{n=1}^{12} \frac{44}{12} * C_{p,n} * \frac{2000}{2205} * CCF_n \qquad \text{(Eq. EE-2)}$$

Where:

E_p = Annual CO_2 mass emissions from chloride process line p (metric tons).

$C_{p,n}$ = Calcined petroleum coke consumption for process line p in month n (tons).

44/12 = Ratio of molecular weights, CO_2 to carbon.

2000/2205 = Conversion of tons to metric tons.

CCF_n = Carbon content factor for petroleum coke consumed in month n from the supplier or as measured by the applicable method incorporated by reference in §98.7 according to §98.314(c) (percent by weight expressed as a decimal fraction).

n = Number of month.

(3) If facility generates carbon-containing waste, you must calculate the total annual quantity of carbon-containing waste produced from all process lines using Equation EE–3 of this section and its carbon contents according to §98.314(e) and (f):

$$TWC = \sum_{p=1}^{m} \sum_{n=1}^{12} WC_{p,n} \qquad \text{(Eq. EE-3)}$$

Where:

TWC = Annual production of carbon-containing waste from titanium dioxide production facility (tons).

$WC_{p,n}$ = Production of carbon-containing waste in month n from chloride process line p (tons).

p = Process line.

m = Total number of process lines.

n = Number of month.

(c) If GHG emissions from a chloride process line are vented through the same stack as any combustion unit or process equipment that reports CO_2 emissions using a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Fuel Combustion Sources), then the calculation methodology in paragraph (b) of this section shall not be used to calculate process CO_2 emissions. The owner or operator shall report under this subpart the combined stack emissions according to the Tier 4 Calculation Methodology in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part.

§98.314 Monitoring and QA/QC requirements.

(a) You must measure your consumption of calcined petroleum coke using plant instruments used for accounting purposes including direct measurement weighing the petroleum coke fed into your process (by belt scales or a similar device) or through the use of purchase records.

(b) You must document the procedures used to ensure the accuracy of monthly calcined petroleum coke consumption measurements.

(c) You must determine the carbon content of the calcined petroleum coke each month based on reports from the supplier. Alternatively, facilities can measure monthly carbon contents of the petroleum coke using ASTM D3176–89 (Reapproved 2002) Standard Practice for Ultimate Analysis of Coal and Coke (incorporated by reference, *see* §98.7) and ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, *see* §98.7).

(d) For quality assurance and quality control of the supplier data, you must conduct an annual measurement of the carbon content from a representative sample of the petroleum coke consumed using ASTM D3176–89 and ASTM D5373–08.

(e) You must determine the quantity of carbon-containing waste generated from each titanium dioxide production line on a monthly basis using plant instruments used for accounting purposes including direct measurement weighing the carbon-containing waste not used during the process (by belt scales or a similar device) or through the use of sales records.

(f) You must determine the carbon contents of the carbon-containing waste from each titanium production line on an annual basis by collecting and analyzing a representative sample

of the material using ASTM D3176–89 and ASTM D5373–08.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66469, Oct. 28, 2010]

§ 98.315 Procedures for estimating missing data.

For the petroleum coke input procedure in § 98.313(b), a complete record of all measured parameters used in the GHG emissions calculations is required (e.g., carbon content values, etc.). Therefore, whenever the monitoring and quality assurance procedures in § 98.315 cannot be followed, a substitute data value for the missing parameter shall be used in the calculations as specified in the paragraphs (a) through (c) of this section. You must document and keep records of the procedures used for all such estimates.

(a) For each missing value of the monthly carbon content of calcined petroleum coke the substitute data value shall be the arithmetic average of the quality-assured values of carbon contents for the month immediately preceding and the month immediately following the missing data incident. If no quality-assured data on carbon contents are available prior to the missing data incident, the substitute data value shall be the first quality-assured value for carbon contents obtained after the missing data period.

(b) For each missing value of the monthly calcined petroleum coke consumption and/or carbon-containing waste, the substitute data value shall be the best available estimate of the monthly petroleum coke consumption based on all available process data or information used for accounting purposes (such as purchase records).

(c) For each missing value of the carbon content of carbon-containing waste, you must conduct a new analysis following the procedures in § 98.314(f).

§ 98.316 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) or (b) of this section, as applicable for each titanium dioxide production line.

(a) If a CEMS is used to measure CO_2 emissions, then you must report the relevant information required under § 98.36(e)(2)(vi) for the Tier 4 Calculation Methodology and the following information in this paragraph (a).

(1) Identification number of each process line.

(2) Annual consumption of calcined petroleum coke (tons).

(3) Annual production of titanium dioxide (tons).

(4) Annual production capacity of titanium dioxide (tons).

(5) Annual production of carbon-containing waste (tons), if applicable.

(b) If a CEMS is not used to measure CO_2 emissions, then you must report the information listed in this paragraph (b):

(1) Identification number of each process line.

(2) Annual CO_2 emissions from each chloride process line (metric tons/year).

(3) Annual consumption of calcined petroleum coke for each process line (tons).

(4) Annual production of titanium dioxide for each process line (tons).

(5) Annual production capacity of titanium dioxide for each process line (tons).

(6) [Reserved]

(7) Annual production of carbon-containing waste for each process line (tons), if applicable.

(8) Monthly production of titanium dioxide for each process line (tons).

(9) [Reserved]

(10) Whether monthly carbon content of the petroleum coke is based on reports from the supplier or through self measurement using applicable ASTM standard methods.

(11) Carbon content for carbon-containing waste for each process line (percent by weight expressed as a decimal fraction).

(12) If carbon content of petroleum coke is based on self measurement, the ASTM standard methods used.

(13) Sampling analysis results of carbon content of petroleum coke as determined for QA/QC of supplier data under § 98.314(d) (percent by weight expressed as a decimal fraction).

(14) Number of separate chloride process lines located at the facility.

(15) The number of times in the reporting year that missing data procedures were followed to measure the carbon contents of petroleum coke (number of months); petroleum coke consumption (number of months); carbon-containing waste generated (number of months); and carbon contents of the carbon-containing waste (number of times during year).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66469, Oct. 28, 2010; 79 FR 63799, Oct. 24, 2014]

§ 98.317 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) through (c) of this section for each titanium dioxide production facility.

(a) If a CEMS is used to measure CO_2 emissions, then you must retain under this subpart required for the Tier 4 Calculation Methodology in § 98.37 and the information listed in this paragraph (a):

(1) Records of all calcined petroleum coke purchases.

(2) Annual operating hours for each titanium dioxide process line.

(b) If a CEMS is not used to measure CO_2 emissions, then you must retain records for the information listed in this paraghraph:

(1) Records of all calcined petroleum coke purchases (tons).

(2) Records of all analyses and calculations conducted for all reported data as listed in § 98.316(b).

(3) Sampling analysis results for carbon content of consumed calcined petroleum coke (percent by weight expressed as a decimal fraction).

(4) Sampling analysis results for the carbon content of carbon containing waste (percent by weight expressed as a decimal fraction), if applicable.

(5) Monthly production of carbon-containing waste (tons).

(6) You must document the procedures used to ensure the accuracy of the monthly petroleum coke consumption and quantity of carbon-containing waste measurement including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

(7) Annual operating hours for each titanium dioxide process line (hours).

(c) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (c)(1) and (2) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (c)(1) and (2) of this section.

(1) Carbon content factor for petroleum coke consumed in month from the supplier or as measured by the applicable method incorporated by reference in § 98.7 according to § 98.314(c) (percent by weight, expressed as a decimal fraction) (Equation EE–2 of § 98.313).

(2) Calcined petroleum coke consumption for process line in month (tons) (Equation EE–2).

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63799, Oct. 24, 2014]

§ 98.318 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart FF—Underground Coal Mines

SOURCE: 75 FR 39763, July 12, 2010, unless otherwise noted.

§ 98.320 Definition of the source category.

(a) This source category consists of active underground coal mines, and any underground mines under development that have operational pre-mining degasification systems. An underground coal mine is a mine at which coal is produced by tunneling into the earth to the coalbed, which is then mined with underground mining equipment such as cutting machines and continuous, longwall, and shortwall mining machines, and transported to the surface. Underground coal mines are categorized as active if any one of the following five conditions apply:

(1) Mine development is underway.

(2) Coal has been produced within the last 90 days.

(3) Mine personnel are present in the mine workings.

(4) Mine ventilation fans are operative.

(5) The mine is designated as an ''intermittent'' mine by the Mine Safety and Health Administration (MSHA).

(b) This source category includes the following:

(1) Each ventilation system shaft or vent hole, including both those points where mine ventilation air is emitted and those where it is sold, used onsite, or otherwise destroyed (including by ventilation air methane (VAM) oxidizers).

(2) Each degasification system well or gob gas vent hole, including degasification systems deployed before, during, or after mining operations are conducted in a mine area. This includes both those wells and vent holes where coal bed gas is emitted, and those where the gas is sold, used onsite, or otherwise destroyed (including by flaring).

(c) This source category does not include abandoned or closed mines, surface coal mines, or post-coal mining activities (*e.g.*, storage or transportation of coal).

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71966, Nov. 29, 2013]

§ 98.321 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an active underground coal mine and the facility meets the requirements of § 98.2(a)(1).

§ 98.322 GHGs to report.

(a) You must report CH_4 liberated from ventilation and degasification systems.

(b) You must report CH_4 destruction from systems where gas is sold, used onsite, or otherwise destroyed (including by VAM oxidation and by flaring).

(c) You must report net CH_4 emissions from ventilation and degasification systems.

(d) You must report under this subpart the CO_2 emissions from coal mine gas CH_4 destruction occurring at the facility, where the gas is not a fuel input for energy generation or use (*e.g.*, flaring and VAM oxidation).

(e) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the CO_2, CH_4, and N_2O emissions from each stationary fuel combustion unit by following the requirements of subpart C. Report emissions from both the combustion of collected coal mine CH_4 and any other fuels.

(f) An underground coal mine that is subject to this part because emissions from source categories described in Tables A–3, A–4 or A–5 of subpart A of this part, or from stationary combustion (subpart C of this part), is not required to report emissions under this subpart unless the coal mine liberates 36,500,000 actual cubic feet (acf) or more of methane per year from its ventilation system.

[75 FR 39763, July 12, 2010, as amended at 76 FR 73901, Nov. 29, 2011; 78 FR 71966, Nov. 29, 2013]

§ 98.323 Calculating GHG emissions.

(a) For each ventilation shaft, vent hole, or centralized point into which CH_4 from multiple shafts and/or vent holes are collected, you must calculate the quarterly CH_4 liberated from the ventilation system using Equation FF–1 of this section. You must measure CH_4 content, flow rate, temperature, pressure, and moisture content of the gas using the procedures outlined in § 98.324.

$$CH_{4V} = n * \left(V * MCF * \frac{C}{100\%} * 0.0423 * \frac{520^{o}R}{T} * \frac{P}{1\ atm} * 1,440 * \frac{0.454}{1,000} \right) \quad \text{(Eq. FF-1)}$$

Where:

CH_{4V} = Quarterly CH_4 liberated from a ventilation monitoring point (metric tons CH_4).

V = Volumetric flow rate for the quarter (acfm) based on sampling or a flow rate meter. If a flow rate meter is used and the meter automatically corrects to standard temperature and pressure, then use scfm and replace ''520°R/T × P/1 atm'' with ''1''.

MCF = Moisture correction factor for the measurement period, volumetric basis.

= 1 when V and C are measured on a dry basis or if both are measured on a wet basis.

= 1-(f_{H2O}) when V is measured on a wet basis and C is measured on a dry basis.

= 1/[1-(f_{H2O})] when V is measured on a dry basis and C is measured on a wet basis.

(f_{H2O}) = Moisture content of the CH_4 emitted during the measurement period, volumetric basis (cubic feet water per cubic feet emitted gas).

C = CH_4 concentration of ventilation gas for the quarter (%).

n = The number of days in the quarter where active ventilation of mining operations is taking place at the monitoring point.

0.0423 = Density of CH_4 at 520 °R (60 °F) and 1 atm (lb/scf).

520 °R = 520 degrees Rankine.

T = Temperature at which flow is measured (°R) for the quarter.

P = Absolute pressure at which flow is measured (atm) for the quarter. The annual average barometric pressure from the nearest NOAA weather service station may be used as a default.

1,440 = Conversion factor (min/day).

0.454/1,000 = Conversion factor (metric ton/lb).

(1) Consistent with MSHA inspections, the quarterly periods are:

(i) January 1–March 31.

(ii) April 1–June 30.

(iii) July 1–September 30.

(iv) October 1–December 31.

(2) Values of V, C, T, P, and (f_{H2O}), if applicable, must be based on measurements taken at least once each quarter with no fewer than 6 weeks between measurements. If measurements are taken more frequently than once per quarter, then use the average value for all measurements taken. If continuous measurements are taken, then use the average value over the time period of continuous monitoring.

(3) If a facility has more than one monitoring point, the facility must calculate total CH_4 liberated from ventilation systems ($CH_{4VTotal}$) as the sum of the CH_4 from all ventilation monitoring points in the mine, as follows:

$$CH_{4VTotal} = \sum_{i=1}^{m} \left(CH_{4V}\right)_i \qquad \text{(Eq. FF-2)}$$

Where:

$CH_{4VTotal}$ = Total quarterly CH_4 liberated from ventilation systems (metric tons CH_4).

CH_{4V} = Quarterly CH_4 liberated from each ventilation monitoring point (metric tons CH_4).

m = Number of ventilation monitoring points.

(b) For each monitoring point in the degasification system (this could be at each degasification well and/or vent hole, or at more centralized points into which CH_4 from multiple wells and/or vent holes are collected), you must calculate the weekly CH_4 liberated from the mine using CH_4 measured weekly or more frequently (including by CEMS) according to 98.234(c), CH_4 content, flow rate, temperature, pressure, and moisture content, and Equation FF–3 of this section.

$$CH_{4D} = \sum_{i=1}^{n} \left(V_i * MCF_i * \frac{C_i}{100\%} * 0.0423 \frac{520^\circ R}{T_i} * \frac{P_i}{1\,atm} * 1{,}440 * \frac{0.454}{1{,}000} \right) \qquad \text{(Eq. FF-3)}$$

Where:

CH_{4D} = Weekly CH_4 liberated from at the monitoring point (metric tons CH_4).

V_i = Measured volumetric flow rate for the days in the week when the degasification system is in operation at that monitoring point, based on sampling or a flow rate meter (acfm). If a flow rate meter is used and the meter automatically corrects to standard temperature and pressure, then use scfm and replace ''520°R/T_i× P_i/1 atm'' with ''1''.

MCF_i = Moisture correction factor for the measurement period, volumetric basis.

= 1 when V_i and C_i are measured on a dry basis or if both are measured on a wet basis.

= 1-(f_{H2O})$_I$ when V_i is measured on a wet basis and C_i is measured on a dry basis.

= 1/[1-(f_{H2O})$_i$] when V_i is measured on a dry basis and C_i is measured on a wet basis.

(f_{H2O}) = Moisture content of the CH_4 emitted during the measurement period, volumetric basis (cubic feet water per cubic feet emitted gas).

C_i = CH_4 concentration of gas for the days in the week when the degasification system is in operation at that monitoring point (%).

n = The number of days in the week that the system is operational at that measurement point.

0.0423 = Density of CH_4 at 520 °R (60 °F) and 1 atm (lb/scf).

520 °R = 520 degrees Rankine.

T_i = Temperature at which flow is measured (°R).

P_i = Absolute pressure at which flow is measured (atm).

1,440 = Conversion factor (minutes/day).

0.454/1,000 = Conversion factor (metric ton/lb).

(1) Values for V, C, T, P, and (f_{H2O}), if applicable, must be based on measurements taken at least once each calendar week with at least 3 days between measurements. If measurements are taken more frequently than once per week, then use the average value for all measurements taken that week. If continuous measurements are taken, then use the average values over the time period of continuous monitoring when the continuous monitoring equipment is properly functioning.

(2) Quarterly total CH_4 liberated from degasification systems for the mine should be determined as the sum of CH_4 liberated determined at each of the monitoring points in the mine, summed over the number of weeks in the quarter, as follows:

$$CH_{4DTotal} = \sum_{i=1}^{m}\sum_{j=1}^{w}(CH_{4D})_{i,j} \qquad \text{(Eq. FF-4)}$$

Where:

$CH_{4DTotal}$ = Quarterly CH_4 liberated from all degasification monitoring points (metric tons CH_4).

$(CH_{4D})_{i,j}$ = Weekly CH_4 liberated from a degasification monitoring point (metric tons CH_4).

m = Number of monitoring points.

w = Number of weeks in the quarter during which the degasification system is operated.

(c) If gas from a degasification system or ventilation system is sold, used onsite, or otherwise destroyed (including by flaring or VAM oxidation), you must calculate the quarterly CH_4 destroyed for each destruction device and each point of offsite transport to a destruction device, using Equation FF–5 of this section. You must measure CH_4 content and flow rate according to the provisions in § 98.324, and calculate the methane routed to the destruction device (CH_4) using either Equation FF–1 or Equation FF–4 of this section, as applicable.

$$CH_{4Destroyed} = CH_4 \times DE \qquad \text{(Eq. FF-5)}$$

Where:

$CH_{4Destroyed}$ = Quarterly CH_4 destroyed (metric tons).

CH_4 = Quarterly CH_4 routed to the destruction device or offsite transfer point (metric tons).

DE = Destruction efficiency (lesser of manufacturer's specified destruction efficiency and 0.99). If the gas is transported off-site for destruction, use DE = 1.

(1) Calculate total CH_4 destroyed as the sum of the methane destroyed at all destruction devices (onsite and offsite), using Equation FF–6 of this section.

$$CH_{4\,Destroyed\ Total} = \sum_{i=1}^{d}\left(CH_{4\,Destroyed}\right)_i \qquad \text{(Eq. FF-6)}$$

Where:

$CH_{4DestroyedTotal}$ = Quarterly total CH_4 destroyed at the mine (metric tons CH_4).

$CH_{4Destroyed}$ = Quarterly CH_4 destroyed from each destruction device or offsite transfer point.

d = Number of onsite destruction devices and points of offsite transport.

(2) [Reserved]

(d) You must calculate the quarterly measured net CH_4 emissions to the atmosphere using Equation FF–7 of this section.

$$CH_4 \text{ emitted (net)} = CH_{4VTotal} + CH_{4DTotal} - CH_{4destroyedTotal} \qquad \text{(Eq. FF-7)}$$

Where:

CH_4 emitted (net)= Quarterly CH_4 emissions from the mine (metric tons).

$CH_{4VTotal}$ = Quarterly sum of the CH_4 liberated from all mine ventilation monitoring points (CH_{4V}), calculated using Equation FF–2 of this section (metric tons).

$CH_{4DTotal}$ = Quarterly sum of the CH_4 liberated from all mine degasification monitoring points (CH_{4D}), calculated using Equation FF–4 of this section (metric tons).

$CH_{4DestroyedTotal}$ = Quarterly sum of the measured CH_4 destroyed from all mine ventilation and degasification systems, calculated using Equation FF–6 of this section (metric tons).

(e) For the methane collected from degasification and/or ventilation systems that is destroyed on site and is not a fuel input for energy generation or use (those emissions are monitored and reported under Subpart C of this part), you must estimate the CO_2 emissions using Equation FF–8 of this section.

$$CO_2 = CH_{4Destroyedonsite} * 44/16 \qquad \text{(Eq. FF-8)}$$

Where:

CO_2 = Total quarterly CO_2 emissions from CH_4 destruction (metric tons).

$CH_{4Destroyedonsite}$ = Quarterly sum of the CH_4 destroyed, calculated as the sum of CH_4 destroyed for each onsite, non-energy use, as calculated individually in Equation FF–5 of this section (metric tons).

44/16 = Ratio of molecular weights of CO_2 to CH_4.

[75 FR 39763, July 12, 2010, as amended at 76 FR 73901, Nov. 29, 2011; 78 FR 71967, Nov. 29, 2013]

§ 98.324 Monitoring and QA/QC requirements.

(a) For calendar year 2011 monitoring, the facility may submit a request to the Administrator to use one or more best available monitoring methods as listed in § 98.3(d)(1)(i) through (iv). The request must be submitted no later than October 12, 2010 and must contain the information in § 98.3(d)(2)(ii). To obtain approval, the request must demonstrate to the Administrator's satisfaction that it is not reasonably feasible to acquire, install, and operate a required piece of monitoring equipment by January 1, 2011. The use of best available monitoring methods will not be approved beyond December 31, 2011.

(b) For CH_4 liberated from ventilation systems, determine whether CH_4 will be monitored from each ventilation shaft and vent hole, from a centralized monitoring point, or from a combination of the two options. Operators are allowed flexibility for aggregating emissions from more than one ventilation point, as long as emissions from all are addressed, and the methodology for calculating total emissions documented. Monitor by one of the following options:

(1) Collect quarterly or more frequent grab samples (with no fewer than 6 weeks between measurements) for methane concentration and make quarterly measurements of flow rate, temperature, pressure, and moisture content, if applicable. The sampling and measurements must be made at the same locations as Mine Safety and Health Administration (MSHA) inspection samples are taken, and should be taken when the mine is operating

under normal conditions. You must follow MSHA sampling procedures as set forth in the MSHA Handbook entitled, General Coal Mine Inspection Procedures and Inspection Tracking System Handbook Number: PH–08–V–1, January 1, 2008 (incorporated by reference, see § 98.7). You must record the date of sampling, flow, temperature, pressure, and moisture measurements, the methane concentration (percent), the bottle number of samples collected, and the location of the measurement or collection.

(2) Obtain results of the quarterly (or more frequent) testing performed by MSHA for the methane flowrate. At the same location and within seven days of the MSHA sampling, make measurements of temperature and pressure using the same procedures specified in paragraph (b)(1) of this section. The annual average barometric pressure from the nearest National Oceanic and Atmospheric Administration (NOAA) weather service station may be used as a default for pressure. If the MSHA data for methane flow is provided in the units of actual cubic feet of methane per day, the methane flow data is inserted into Equation FF–1 of this section in place of the value for V and the variables MCF, C/100%, and 1440 are removed from the equation.

(3) Monitor emissions through the use of one or more continuous emission monitoring systems (CEMS). If operators use CEMS as the basis for emissions reporting, they must provide documentation on the process for using data obtained from their CEMS to estimate emissions from their mine ventilation systems.

(c) For CH_4 liberated at degasification systems, determine whether CH_4 will be monitored from each well and gob gas vent hole, from a centralized monitoring point, or from a combination of the two options. Operators are allowed flexibility for aggregating emissions from more than one well or gob gas vent hole, as long as emissions from all are addressed, and the methodology for calculating total emissions is documented. Monitor both gas volume and methane concentration by one of the following two options:

(1) Monitor emissions through the use of one or more continuous emissions monitoring systems (CEMS). If operators use CEMS as the basis for emissions reporting, they must provide documentation on the process for using data obtained from their CEMS to estimate emissions from their mine ventilation systems.

(2) Collect weekly (once each calendar week, with at least three days between measurements) or more frequent samples, for all degasification wells and gob gas vent holes. Determine weekly or more frequent flow rates, methane concentration, temperature, and pressure from these degasification wells and gob gas vent holes. Methane composition should be determined either by submitting samples to a lab for analysis, or from the use of methanometers at the degasification monitoring site. Follow the sampling protocols for sampling of methane emissions from ventilation shafts, as described in § 98.324(b)(1). You must record the date of sampling, flow, temperature, pressure, and moisture measurements, the methane concentration (percent), the bottle number of samples collected, and the location of the measurement or collection.

(3) If the CH_4 concentration is determined on a dry basis and flow is determined on a wet basis or CH_4 concentration is determined on a wet basis and flow is determined on a dry basis, and the flow meter does not automatically correct for moisture content, determine the moisture content in the gas in a location near or representative of the location of:

(i) The gas flow meter at least once each calendar week; if measuring with CEMS. If only one measurement is made each calendar week, there must be at least three days between measurements; and

(ii) The grab sample, if using grab samples, at the time of the sample.

(d) Monitoring must adhere to one of the methods specified in paragraphs (d)(1) through (d)(2) of this section.

(1) ASTM D1945–03, Standard Test Method for Analysis of Natural Gas by Gas Chromatography; ASTM D1946–90 (Reapproved 2006), Standard Practice for Analysis of Reformed Gas by Gas

Chromatography; ASTM D4891–89 (Reapproved 2006), Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion; or ASTM UOP539–97 Refinery Gas Analysis by Gas Chromatography (incorporated by reference, see § 98.7).

(2) As an alternative to the gas chromatography methods provided in paragraph (d)(1) of this section, you may use gaseous organic concentration analyzers and a correction factor to calculate the CH_4 concentration following the requirements in paragraphs (d)(2)(i) through (d)(2)(iii) of this section.

(i) Use Method 25A or 25B at 40 CFR part 60, appendix A–7 to determine gaseous organic concentration as required in § 98.323 and in paragraphs (b) and (c) of this section. You must calibrate the instrument with CH_4 and determine the total gaseous organic concentration as carbon (or as CH_4; K=1 in Equation 25A–1 of Method 25A at 40 CFR part 60, appendix A–7).

(ii) Determine a correction factor that will be used with the gaseous organic concentrations measured in paragraph (i) of this section. The correction factor must be determined at the routine sampling location no less frequently than once a reporting year following the requirements in paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(C) of this section.

(A) Take a minimum of three grab samples of the gas with a minimum of 20 minutes between samples and determine the methane composition of the gas using one of the methods specified in paragraph (d)(1) of this section.

(B) As soon as practical after each grab sample is collected and prior to the collection of a subsequent grab sample, determine the gaseous organic concentration of the gas using either Method 25A or 25B at 40 CFR part 60, appendix A–7 as specified in paragraph (d)(2)(i) of this section.

(C) Determine the arithmetic average methane concentration and the arithmetic average gaseous organic concentration of the samples analyzed according to paragraphs (d)(2)(ii)(A) and (d)(2)(ii)(B) of this section, respectively, and calculate the non-methane organic carbon correction factor as the ratio of the average methane concentration to the average total gaseous organic concentration. If the ratio exceeds 1, use 1 for the correction factor.

(iii) Calculate the CH_4 concentration as specified in Equation FF–9 of this section:

$$C_{CH4} = f_{NMOC} \times C_{TGOC} \quad \text{(Eq. FF-9)}$$

Where:

C_{CH4} = Methane (CH_4) concentration in the gas (volume %) for use in Equations FF–1 and FF–3 of this subpart.

f_{NMOC} = Correction factor from the most recent determination of the correction factor as specified in paragraph (d)(2)(ii) of this section (unitless).

C_{TGOC} = Gaseous organic carbon concentration measured using Method 25A or 25B at 40 CFR part 60, appendix A–7 during routine monitoring of the gas (volume %).

(e) All flow meters and gas composition monitors that are used to provide data for the GHG emissions calculations shall be calibrated prior to the first reporting year, using the applicable methods specified in paragraphs (d), and (e)(1) through (e)(7) of this section. Alternatively, calibration procedures specified by the flow meter manufacturer may be used. Flow meters and gas composition monitors shall be recalibrated either at the minimum frequency specified by the manufacturer or annually. The operator shall operate, maintain, and calibrate a gas composition monitor capable of measuring the concentration of CH_4 in the gas using one of the methods specified in paragraph (d) of this section. The operator shall operate, maintain, and calibrate the flow meter using any of the following test methods or follow the procedures specified by the flow meter manufacturer. Flow meters must meet the accuracy requirements in § 98.3(i).

(1) ASME MFC–3M–2004, Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi (incorporated by reference, *see* § 98.7).

(2) ASME MFC–4M–1986 (Reaffirmed 1997), Measurement of Gas Flow by Turbine Meters (incorporated by reference, *see* § 98.7).

(3) ASME MFC–6M–1998, Measurement of Fluid Flow in Pipes Using Vortex Flowmeters (incorporated by reference, *see* § 98.7).

(4) ASME MFC–7M–1987 (Reaffirmed 1992), Measurement of Gas Flow by Means of Critical Flow Venturi Nozzles (incorporated by reference, *see* § 98.7).

(5) ASME MFC–11M–2006 Measurement of Fluid Flow by Means of Coriolis Mass Flowmeters (incorporated by reference, *see* § 98.7).

(6) ASME MFC–14M–2003 Measurement of Fluid Flow Using Small Bore Precision Orifice Meters (incorporated by reference, *see* § 98.7).

(7) ASME MFC–18M–2001 Measurement of Fluid Flow using Variable Area Meters (incorporated by reference, *see* § 98.7).

(f) For CH_4 destruction, CH_4 must be monitored at each onsite destruction device and each point of offsite transport for combustion using continuous monitors of gas routed to the device or point of offsite transport.

(g) All temperature, pressure, and moisture content monitors must be operated and calibrated using the procedures and frequencies specified by the manufacturer.

(h) If applicable, the owner or operator shall document the procedures used to ensure the accuracy of gas flow rate, gas composition, temperature, pressure, and moisture content measurements. These procedures include, but are not limited to, calibration of flow meters, and other measurement devices. The estimated accuracy of measurements, and the technical basis for the estimated accuracy shall be recorded.

[75 FR 39763, July 12, 2010, as amended at 76 FR 73901, Nov. 29, 2011; 78 FR 71967, Nov. 29, 2013]

§ 98.325 Procedures for estimating missing data.

(a) A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable (*e.g.*, if a meter malfunctions during unit operation or if a required fuel sample is not taken), a substitute data value for the missing parameter shall be used in the calculations, in accordance with paragraph (b) of this section.

(b) For each missing value of CH_4 concentration, flow rate, temperature, pressure, and moisture content for ventilation and degasification systems, the substitute data value shall be the arithmetic average of the quality-assured values of that parameter immediately preceding and immediately following the missing data incident. If, for a particular parameter, no quality-assured data are available prior to the missing data incident, the substitute data value shall be the first quality-assured value obtained after the missing data period.

[75 FR 39763, July 12, 2010, as amended at 76 FR 73903, Nov. 29, 2011]

§ 98.326 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the following information for each mine:

(a) Quarterly CH_4 liberated from each ventilation monitoring point, (metric tons CH_4).

(b) Weekly CH_4 liberated from each degasification system monitoring point (metric tons CH_4).

(c) Quarterly CH_4 destruction at each ventilation and degasification system destruction device or point of offsite transport (metric tons CH_4).

(d) Quarterly CH_4 emissions (net) from all ventilation and degasification systems (metric tons CH_4).

(e) Quarterly CO_2 emissions from onsite destruction of coal mine gas CH_4, where the gas is not a fuel input for energy generation or use (*e.g.*, flaring) (metric tons CO_2).

(f) Quarterly volumetric flow rate for each ventilation monitoring point and units of measure (scfm or acfm), date and location of each measurement, and method of measurement (quarterly sampling or continuous monitoring), used in Equation FF–1 of this subpart.

(g) Quarterly CH_4 concentration for each ventilation monitoring point, dates and locations of each measurement and method of measurement (sampling or continuous monitoring).

(h) Weekly volumetric flow rate used to calculate CH_4 liberated from degasification systems and units of measure (acfm or scfm), and method of measurement (sampling or continuous monitoring), used in Equation FF–3 of this subpart.

(i) Quarterly CH_4 concentration (%) used to calculate CH_4 liberated from degasification systems and if the data is based on CEMS or weekly sampling.

(j) Weekly volumetric flow rate used to calculate CH_4 destruction for each destruction device and each point of offsite transport, and units of measure (acfm or scfm).

(k) Weekly CH_4 concentration (%) used to calculate CH_4 flow to each destruction device and each point of offsite transport (C).

(l) Dates in quarterly reporting period where active ventilation of mining operations is taking place.

(m) Dates in quarterly reporting period where degasification of mining operations is taking place.

(n) Dates in quarterly reporting period when continuous monitoring equipment is not properly functioning, if applicable.

(o) Temperatures (°R), pressure (atm), moisture content, and the moisture correction factor (if applicable) used in Equation FF–1 and FF–3 of this subpart; and the gaseous organic concentration correction factor, if Equation FF–9 was required.

(p) For each destruction device, a description of the device, including an indication of whether destruction occurs at the coal mine or off-site. If destruction occurs at the mine, also report an indication of whether a back-up destruction device is present at the mine, the annual operating hours for the primary destruction device, the annual operating hours for the back-up destruction device (if present), and the destruction efficiencies assumed (percent).

(q) A description of the gas collection system (manufacturer, capacity, and number of wells) the surface area of the gas collection system (square meters), and the annual operating hours of the gas collection system.

(r) Identification information and description for each well, shaft, and vent hole, including paragraphs (r)(1) through (r)(3) of this section:

(1) Indication of whether the well, shaft, or vent hole is monitored individually, or as part of a centralized monitoring point. Note which method (sampling or continuous monitoring) was used.

(2) Start date and close date of each well, shaft, and vent hole.

(3) Number of days the well, shaft, or vent hole was in operation during the reporting year.

(s) For each centralized monitoring point, identification of the wells and shafts included in the point. Note which method (sampling or continuous monitoring) was used.

(t) Mine Safety and Health Administration (MSHA) identification for this coal mine.

[75 FR 39763, July 12, 2010, as amended at 76 FR 73903, Nov. 29, 2011; 78 FR 71967, Nov. 29, 2013]

§ 98.327 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain the following records:

(a) Calibration records for all monitoring equipment, including the method or manufacturer's specification used for calibration.

(b) Records of gas sales.

(c) Logbooks of parameter measurements.

(d) Laboratory analyses of samples.

§ 98.328 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart GG—Zinc Production

§ 98.330 Definition of the source category.

The zinc production source category consists of zinc smelters and secondary zinc recycling facilities.

§ 98.331 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a zinc production process and the facility meets the requirements of either § 98.2(a)(1) or (2).

§ 98.332 GHGs to report.

You must report:

(a) CO_2 process emissions from each Waelz kiln and electrothermic furnace used for zinc production.

(b) CO_2, CH_4, and N_2O combustion emissions from each Waelz kiln. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

(c) CO_2, CH_4, and N_2O emissions from each stationary combustion unit other than Waelz kilns. You must report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C.

§ 98.333 Calculating GHG emissions.

You must calculate and report the annual process CO_2 emissions using the procedures specified in either paragraph (a) or (b) of this section.

(a) Calculate and report under this subpart the process or combined process and combustion CO_2 emissions by operating and maintaining a CEMS according to the Tier 4 Calculation Methodology in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) Calculate and report under this subpart the process CO_2 emissions by following paragraphs (b)(1) and (b)(2) of this section.

(1) For each Waelz kiln or electrothermic furnace at your facility used for zinc production, you must determine the mass of carbon in each carbon-containing material, other than fuel, that is fed, charged, or otherwise introduced into each Waelz kiln and electrothermic furnace at your facility for each year and calculate annual CO_2 process emissions from each affected unit at your facility using Equation GG–1 of this section. For electrothermic furnaces, carbon containing input materials include carbon eletrodes and carbonaceous reducing agents. For Waelz kilns, carbon containing input materials include carbonaceous reducing agents. If you document that a specific material contributes less than 1 percent of the total carbon into the process, you do not have to include the material in your calculation using Equation R–1 of § 98.183.

$$E_{CO2k} = \frac{44}{12} * \frac{2000}{2205} * \left[(Zinc)_k * (C_{Zinc})_k + (Flux)_k * (C_{Flux})_k + (Electrode)_k * (C_{Electrode})_k + (Carbon)_k * (C_{carbon})_k \right] \quad \text{(Eq. GG-1)}$$

Where:

E_{CO2k} = Annual CO_2 process emissions from individual Waelz kiln or electrothermic furnace ''k'' (metric tons).

44/12 = Ratio of molecular weights, CO_2 to carbon.

2000/2205 = Conversion factor to convert tons to metric tons.

$(Zinc)_k$ = Annual mass of zinc bearing material charged to kiln or furnace ''k'' (tons).

$(C_{Zinc})_k$ = Carbon content of the zinc bearing material, from the annual carbon analysis for kiln or furnace ''k'' (percent by weight, expressed as a decimal fraction).

$(Flux)_k$ = Annual mass of flux materials (e.g., limestone, dolomite) charged to kiln or furnace ''k'' (tons).

$(C_{Flux})_k$ = Carbon content of the flux materials charged to kiln or furnace ''k'', from the annual carbon analysis (percent by weight, expressed as a decimal fraction).

$(Electrode)_k$ = Annual mass of carbon electrode consumed in furnace ''k'' (tons).

$(C_{Electrode})_k$ = Carbon content of the carbon electrode consumed in furnace ''k'', from the annual carbon analysis (percent by weight, expressed as a decimal fraction).

$(Carbon)_k$ = Annual mass of carbonaceous materials (e.g., coal, coke) charged to the kiln or furnace ''k''(tons).

$(C_{Carbon})_k$ Carbon content of the carbonaceous materials charged to kiln or furnace, ''k'', from the annual carbon analysis (percent by weight, expressed as a decimal fraction).

(2) You must determine the CO_2 emissions from all of the Waelz kilns or electrothermic furnaces at your facility using Equation GG–2 of this section.

$$CO_2 = \sum_{k=1}^{n} E_{CO2_k} \qquad \text{(Eq. GG-2)}$$

Where:

CO_2 = Annual combined CO_2 emissions from all Waelz kilns or electrothermic furnaces (tons).

E_{CO2_k} = Annual CO_2 emissions from each Waelz kiln or electrothermic furnace k calculated using Equation GG–1 of this section (tons).

n = Total number of Waelz kilns or electrothermic furnaces at facility used for the zinc production.

(c) If GHG emissions from a Waelz kiln or electrothermic furnace are vented through the same stack as any combustion unit or process equipment that reports CO_2 emissions using a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Fuel Combustion Sources), then the calculation methodology in paragraph (b) of this section shall not be used to calculate process emissions. The owner or operator shall report under this subpart the combined stack emissions according to the Tier 4 Calculation Methodology in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66470, Oct. 28, 2010]

§ 98.334 Monitoring and QA/QC requirements.

If you determine CO_2 emissions using the carbon input procedure in § 98.333(b)(1) and (b)(2), you must meet the requirements specified in paragraphs (a) and (b) of this section.

(a) Determine the mass of each solid carbon-containing input material consumed using facility instruments, procedures, or records used for accounting purposes including direct measurement weighing or through the use of purchase records same plant instruments or procedures that are used for accounting purposes (such as weigh hoppers, belt weigh feeders, weighed purchased quantities in shipments or containers, combination of bulk density and volume measurements, etc.). Record the total mass for the materials consumed each calendar month and sum the monthly mass to determine the annual mass for each input material.

(b) For each input material identified in paragraph (a) of this section, you must determine the average carbon content of the material consumed or used in the calendar year using the methods specified in either paragraph (b)(1) or (b)(2) of this section.

(1) Information provided by your material supplier.

(2) Collecting and analyzing at least three representative samples of the material using the appropriate testing method. For each carbon-containing input material identified for which the carbon content is not provided by your material supplier, the carbon content of the material must be analyzed at least annually using the appropriate standard methods (and their QA/QC procedures), which are identified in paragraphs (b)(2)(i) through (b)(2)(iii) of this section, as applicable. If you document that a specific process input or output contributes less than one percent of the total mass of carbon into or out of the process, you do not have to determine the monthly mass or annual carbon content of that input or output.

(i) Using ASTM E1941–04 Standard Test Method for Determination of Carbon in Refractory and Reactive Metals and Their Alloys (incorporated by reference, see § 98.7), analyze zinc bearing materials.

(ii) Using ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, see § 98.7), analyze carbonaceous reducing agents and carbon electrodes.

(iii) Using ASTM C25–06 Standard Test Methods for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime (incorporated by reference, see § 98.7), analyze flux materials such as limestone or dolomite.

§ 98.335 Procedures for estimating missing data.

For the carbon input procedure in § 98.333(b), a complete record of all measured parameters used in the GHG emissions calculations is required (e.g., raw materials carbon content values, etc.). Therefore, whenever a quality-assured value of a required parameter is

unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in paragraphs (a) and (b) of this section. You must document and keep records of the procedures used for all such estimates.

(a) For missing records of the carbon content of inputs for facilities that estimate emissions using the carbon input procedure in § 98.333(b); 100 percent data availability is required. You must repeat the test for average carbon contents of inputs according to the procedures in § 98.335(b) if data are missing.

(b) For missing records of the annual mass of carbon-containing inputs using the carbon input procedure in § 98.333(b), the substitute data value must be based on the best available estimate of the mass of the input material from all available process data or information used for accounting purposes, such as purchase records.

§ 98.336 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) or (b) of this section, as applicable, for each Waelz kiln or electrothermic furnace.

(a) If a CEMS is used to measure CO_2 emissions, then you must report under this subpart the relevant information required for the Tier 4 Calculation Methodology in § 98.36 and the information listed in this paragraph (a):

(1) Annual zinc product production capacity (tons).

(2) Annual production quantity for each zinc product (tons).

(3) Annual facility production quantity for each zinc product (tons).

(4) Number of Waelz kilns at each facility used for zinc production.

(5) Number of electrothermic furnaces at each facility used for zinc production.

(b) If a CEMS is not used to measure CO_2 emissions, then you must report the information listed in this paragraph (b):

(1) Identification number and annual process CO_2 emissions from each individual Waelz kiln or electrothermic furnace (metric tons).

(2) Annual zinc product production capacity (tons).

(3) Annual production quantity for each zinc product (tons).

(4) Number of Waelz kilns at each facility used for zinc production.

(5) Number of electrothermic furnaces at each facility used for zinc production.

(6) [Reserved]

(7) [Reserved]

(8) Whether carbon content of each carbon-containing input material charged to each kiln or furnace is based on reports from the supplier or through self measurement using applicable ASTM standard method.

(9) If carbon content of each carbon-containing input material charged to each kiln or furnace is based on self measurement, the ASTM Standard Test Method used.

(10) [Reserved]

(11) Whether carbon content of the carbon electrode used in each furnace is based on reports from the supplier or through self measurement using applicable ASTM standard method.

(12) If carbon content of carbon electrode used in each furnace is based on self measurement, the ASTM standard method used.

(13) If you use the missing data procedures in § 98.335(b), you must report how the monthly mass of carbon-containing materials with missing data was determined and the number of months the missing data procedures were used.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66470, Oct. 28, 2010; 79 FR 63799, Oct. 24, 2014]

§ 98.337 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) through (c) of this section for each zinc production facility.

(a) If a CEMS is used to measure emissions, then you must retain under this subpart the records required for the Tier 4 Calculation Methodology in § 98.37 and the information listed in this paragraph (a):

(1) Monthly facility production quantity for each zinc product (tons).

(2) Annual operating hours for all Waelz kilns and electrothermic furnaces used in zinc production.

(b) If a CEMS is not used to measure emissions, you must also retain the records specified in paragraphs (b)(1) through (b)(7) of this section.

(1) Records of all analyses and calculations conducted for data reported as listed in § 98.336(b).

(2) Annual operating hours for Waelz kilns and electrothermic furnaces used in zinc production.

(3) Monthly production quantity for each zinc product (tons).

(4) Monthly mass of zinc bearing materials, flux materials (e.g., limestone, dolomite), and carbonaceous materials (e.g., coal, coke) charged to the kiln or furnace (tons).

(5) Sampling and analysis records for carbon content of zinc bearing materials, flux materials (e.g., limestone, dolomite), carbonaceous materials (e.g., coal, coke), charged to the kiln or furnace (percent by weight, expressed as a decimal fraction).

(6) Monthly mass of carbon electrode consumed in for each electrothermic furnace (tons).

(7) Sampling and analysis records for carbon content of electrode materials.

(8) You must keep records that include a detailed explanation of how company records of measurements are used to estimate the carbon input to each Waelz kiln or electrothermic furnace, as applicable to your facility, including documentation of any materials excluded from Equation GG–1 of this subpart that contribute less than 1 percent of the total carbon inputs to the process. You also must document the procedures used to ensure the accuracy of the measurements of materials fed, charged, or placed in an affected unit including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

(c) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (c)(1) through (9) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (c)(1) through (9) of this section.

(1) Annual mass of zinc bearing material charged to kiln or furnace (tons) (Equation GG–1 of § 98.333).

(2) Carbon content of the zinc bearing material, from the annual carbon analysis for kiln or furnace (percent by weight, expressed as a decimal fraction) (Equation GG–1).

(3) Annual mass of flux materials (e.g., limestone, dolomite) charged to each kiln or furnace (tons) (Equation GG–1).

(4) Carbon content of the flux materials charged to each kiln or furnace, from the annual carbon analysis (percent by weight, expressed as a decimal fraction) (Equation GG–1).

(5) Annual mass of carbon electrode consumed in each furnace (tons) (Equation GG–1).

(6) Carbon content of the carbon electrode consumed in each furnace, from the annual carbon analysis (percent by weight, expressed as a decimal fraction) (Equation GG–1).

(7) Annual mass of carbonaceous materials (e.g., coal, coke) charged to each kiln or furnace (tons) (Equation GG–1).

(8) Carbon content of the carbonaceous materials charged to each kiln or furnace, from the annual carbon analysis (percent by weight, expressed as a decimal fraction) (Equation GG–1).

(9) Identify whether each unit is a Waelz kiln or an electrothermic furnace.

[74 FR 56374, Oct. 30, 2009, as amended at 79 FR 63799, Oct. 24, 2014]

§ 98.338 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart HH—Municipal Solid Waste Landfills

§ 98.340 Definition of the source category.

(a) This source category applies to municipal solid waste (MSW) landfills that accepted waste on or after January 1, 1980, unless all three of the following conditions apply.

(1) The MSW landfill did not receive waste on or after January 1, 2013.

(2) The MSW landfill had CH_4 generation as determined using Equation HH–

5 and, if applicable, Equation HH–7 of this subpart of less than 1,190 metric tons of CH_4 in the 2013 reporting year.

(3) The owner or operator of the MSW landfill was not required to submit an annual report under any requirement of this part in any reporting year prior to 2013.

(b) This source category does not include Resource Conservation and Recovery Act (RCRA) Subtitle C or Toxic Substances Control Act (TSCA) hazardous waste landfills, construction and demolition waste landfills, or industrial waste landfills.

(c) This source category consists of the following sources at municipal solid waste (MSW) landfills: Landfills, landfill gas collection systems, and landfill gas destruction devices (including flares).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66470, Oct. 28, 2010; 78 FR 71968, Nov. 29, 2013]

§ 98.341 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains a MSW landfill and the facility meets the requirements of § 98.2(a)(1).

§ 98.342 GHGs to report.

(a) You must report CH_4 generation and CH_4 emissions from landfills.

(b) You must report CH_4 destruction resulting from landfill gas collection and combustion systems.

(c) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, CH_4, and N_2O from each stationary combustion unit following the requirements of subpart C.

§ 98.343 Calculating GHG emissions.

(a) For all landfills subject to the reporting requirements of this subpart, calculate annual modeled CH_4 generation according to the applicable requirements in paragraphs (a)(1) through (a)(3) of this section.

(1) Calculate annual modeled CH_4 generation using Equation HH–1 of this section.

$$G_{CH4} = \sum_{x=S}^{T-1} \left\{ W_x \times MCF \times DOC \times DOC_F \times F \times \frac{16}{12} \times \left(e^{-k(T-x-1)} - e^{-k(T-x)} \right) \right\} \qquad \text{(Eq. HH-1)}$$

Where:

G_{CH4} = Modeled methane generation rate in reporting year T (metric tons CH_4).

x = Year in which waste was disposed.

S = Start year of calculation. Use the year 1960 or the opening year of the landfill, whichever is more recent.

T = Reporting year for which emissions are calculated.

W_X = Quantity of waste disposed in the landfill in year × from measurement data, tipping fee receipts, or other company records (metric tons, as received (wet weight)).

MCF = Methane correction factor (fraction). Use the default value of 1 unless there is active aeration of waste within the landfill during the reporting year. If there is active aeration of waste within the landfill during the reporting year, use either the default value of 1 or select an alternative value no less than 0.5 based on site-specific aeration parameters.

DOC = Degradable organic carbon from Table HH–1 of this subpart [fraction (metric tons C/metric ton waste)].

DOC_F = Fraction of DOC dissimilated (fraction). Use the default value of 0.5.

F = Fraction by volume of CH_4 in landfill gas from measurement data for the current reporting year, if available (fraction, dry basis, corrected to 0% oxygen); otherwise, use the default of 0.5.

k = Rate constant from Table HH–1 to this subpart (yr^{-1}). Select the most applicable k value for the majority of the past 10 years (or operating life, whichever is shorter).

(2) For years when material-specific waste quantity data are available, apply Equation HH–1 of this section for each waste quantity type and sum the CH_4 generation rates for all waste types to calculate the total modeled CH_4 generation rate for the landfill. Use the appropriate parameter values for k, DOC, MCF, DOC_F, and F shown in Table HH–1 of this subpart. The annual quantity of each type of waste disposed must be calculated as the sum of the

daily quantities of waste (of that type) disposed. You may use the bulk waste parameters for a portion of your waste materials when using the material-specific modeling approach for mixed waste streams that cannot be designated to a specific material type. For years when waste composition data are not available, use the bulk waste parameter values for k and DOC in Table HH–1 to this subpart for the total quantity of waste disposed in those years.

(3) Beginning in the first emissions reporting year and for each year thereafter, if scales are in place, you must determine the annual quantity of waste (in metric tons as received, i.e., wet weight) disposed of in the landfill using paragraph (a)(3)(i) of this section for all containers and for all vehicles used to haul waste to the landfill, except for passenger cars, light duty pickup trucks, or waste loads that cannot be measured using the scales due to physical limitations (load cannot physically access or fit on the scale) and/or operational limitations of the scale (load exceeding the limits or sensitivity range of the scale). If scales are not in place, you must use paragraph (a)(3)(ii) of this section to determine the annual quantity of waste disposed. For waste hauled to the landfill in passenger cars or light duty pickup trucks, you may use either paragraph (a)(3)(i) or paragraph (a)(3)(ii) of this section to determine the annual quantity of waste disposed. For loads that cannot be measured using the scales due to physical and/or operational limitations of the scale, you must use paragraph (a)(3)(ii) of this section or similar engineering calculations to determine the annual quantity of waste disposed. The approach used to determine the annual quantity of waste disposed of must be documented in the monitoring plan.

(i) Use direct mass measurements of each individual load received at the landfill using either of the following methods:

(A) Weigh using mass scales each vehicle or container used to haul waste as it enters the landfill or disposal area; weigh using mass scales each vehicle or container after it has off-loaded the waste; determine the quantity of waste received from the individual load as the difference in the two mass measurements; and determine the annual quantity of waste received as the sum of all waste loads received during the year. Alternatively, you may determine annual quantity of waste by summing the weights of all vehicles and containers entering the landfill and subtracting from it the sum of all the weights of vehicles and containers after they have off-loaded the waste in the landfill.

(B) Weigh using mass scales each vehicle or container used to haul waste as it enters the landfill or disposal area; determine a representative tare weight by vehicle or container type by weighing no less than 5 of each type of vehicle or container after it has off-loaded the waste; determine the quantity of waste received from the individual load as the difference between the measured weight in and the tare weight determined for that container/vehicle type; and determine the annual quantity of waste received as the sum of all waste loads received during the year.

(ii) Determine the working capacity in units of mass for each type of container or vehicle used to haul waste to the landfill (*e.g.*, using volumetric capacity and waste density measurements; direct measurement of a selected number of passenger vehicles and light duty pick-up trucks; or similar methods); record the number of loads received at the landfill by vehicle/container type; calculate the annual mass per vehicle/container type as the mass product of the number of loads of that vehicle/container multiplied by its working capacity; and calculate the annual quantity of waste received as the sum of the annual mass per vehicle/container type across all of the vehicle/container types used to haul waste to the landfill.

(4) For years prior to the first emissions reporting year, use methods in paragraph (a)(3) of this section when waste disposal quantity data are readily available. When waste disposal quantity data are not readily available, W_X shall be estimated using one of the applicable methods in paragraphs (a)(4)(i) through (a)(4)(iii) of this section. You must determine which method is most applicable to the conditions

and disposal history of your facility. Historical waste disposal quantities should only be determined once, as part of the first annual report, and the same values should be used for all subsequent annual reports, supplemented by the next year's data on new waste disposal.

(i) Assume all prior years waste disposal quantities are the same as the waste quantity in the first year for which waste quantities are available.

(ii) Use the estimated population served by the landfill in each year, the values for national average per capita waste disposal rates found in Table HH–2 to this subpart, and calculate the waste quantity landfilled using Equation HH–2 of this section.

$$W_x = POP_x \times WDR_x \qquad \text{(Eq. HH-2)}$$

where:

W_X = Quantity of waste placed in the landfill in year x (metric tons, wet basis).

POP_X = Population served by the landfill in year x from city population, census data, or other estimates (capita).

WDR_X = Average per capita waste disposal rate for year x from Table HH–2 to this subpart (metric tons per capita per year, wet basis; tons/cap/yr).

(iii) Use a constant average waste disposal quantity calculated using Equation HH–3 of this section for each year the landfill was in operation (i.e., from the first year accepting waste until the last year for which waste disposal data is unavailable, inclusive).

$$W_x = \frac{LFC}{(YrData - YrOpen + 1)} \qquad \text{(Eq. HH-3)}$$

where:

W_X = Quantity of waste placed in the landfill in year x (metric tons, wet basis).

LFC = Landfill capacity or, for operating landfills, capacity of the landfill used (or the total quantity of waste-in-place) at the end of the year prior to the year when waste disposal data are available from design drawings or engineering estimates (metric tons).

YrData = Year in which the landfill last received waste or, for operating landfills, the year prior to the first reporting year when waste disposal data is first available from company records, or best available data.

YrOpen = Year in which the landfill first received waste from company records or best available data. If no data are available for estimating YrOpen for a closed landfill, use 30 years as the default operating life of the landfill.

(b) For landfills with gas collection systems, calculate the quantity of CH_4 destroyed according to the requirements in paragraphs (b)(1) and (b)(2) of this section.

(1) If you continuously monitor the flow rate, CH_4 concentration, temperature, pressure, and, if necessary, moisture content of the landfill gas that is collected and routed to a destruction device (before any treatment equipment) using a monitoring meter specifically for CH_4 gas, as specified in § 98.344, you must use this monitoring system and calculate the quantity of CH_4 recovered for destruction using Equation HH–4 of this section. A fully integrated system that directly reports CH_4 content requires no other calculation than summing the results of all monitoring periods for a given year.

$$R = \sum_{n=1}^{N}\left((V)_n \times (K_{MC})_n \times \frac{(C_{CH4})_n}{100\%} \times 0.0423 \times \frac{520°R}{(T)_n} \times \frac{(P)_n}{1\,atm} \times \frac{0.454}{1{,}000}\right) \qquad \text{(Eq. HH-4)}$$

where:

R = Annual quantity of recovered CH_4 (metric tons CH_4).

N = Total number of measurement periods in a year. Use daily averaging periods for a continuous monitoring system and N = 365 (or N = 366 for leap years). For monthly sampling, as provided in paragraph (b)(2) of this section, use N=12.

n = Index for measurement period.

$(V)_n$ = Cumulative volumetric flow for the measurement period in actual cubic feet (acf). If the flow rate meter automatically corrects for temperature and pressure, replace ''$520°R/(T)_n \times (P)_n/1$ atm'' with ''1''.

$(K_{MC})_n$ = Moisture correction term for the measurement period, volumetric basis, as follows: $(K_{MC})_n = 1$ when $(V)_n$ and $(C)_n$ are both measured on a dry basis or if both are measured on a wet basis; $(K_{MC})_n$ = [1-

$(f_{H_2O})_n$] when $(V)_n$ is measured on a wet basis and $(C)_n$ is measured on a dry basis; and $(K_{MC})_n = 1/[1-(f_{H2O})_n]$ when $(V)_n$ is measured on a dry basis and $(C)_n$ is measured on a wet basis.

$(f_{H_2O})_n$ = Average moisture content of landfill gas during the measurement period, volumetric basis (cubic feet water per cubic feet landfill gas)

$(C_{CH4})_n$ = Average CH_4 concentration of landfill gas for the measurement period (volume %).

0.0423 = Density of CH_4 lb/cf at 520°R or 60 degrees Fahrenheit and 1 atm.

$(T)_n$ = Average temperature at which flow is measured for the measurement period (°R).

$(P)_n$ = Average pressure at which flow is measured for the measurement period (atm).

0.454/1,000 = Conversion factor (metric ton/lb).

(2) If you do not continuously monitor according to paragraph (b)(1) of this section, you must determine the flow rate, CH_4 concentration, temperature, pressure, and moisture content of the landfill gas that is collected and routed to a destruction device (before any treatment equipment) according to the requirements in paragraphs (b)(2)(i) through (b)(2)(iii) of this section and calculate the quantity of CH_4 recovered for destruction using Equation HH–4 of this section.

(i) Continuously monitor gas flow rate and determine the cumulative volume of landfill gas each month and the cumulative volume of landfill gas each year that is collected and routed to a destruction device (before any treatment equipment). Under this option, the gas flow meter is not required to automatically correct for temperature, pressure, or, if necessary, moisture content. If the gas flow meter is not equipped with automatic correction for temperature, pressure, or, if necessary, moisture content, you must determine these parameters as specified in paragraph (b)(2)(iii) of this section.

(ii) Determine the CH_4 concentration in the landfill gas that is collected and routed to a destruction device (before any treatment equipment) in a location near or representative of the location of the gas flow meter at least once each calendar month; if only one measurement is made each calendar month, there must be at least fourteen days between measurements.

(iii) If the gas flow meter is not equipped with automatic correction for temperature, pressure, or, if necessary, moisture content:

(A) Determine the temperature and pressure in the landfill gas that is collected and routed to a destruction device (before any treatment equipment) in a location near or representative of the location of the gas flow meter at least once each calendar month; if only one measurement is made each calendar month, there must be at least fourteen days between measurements.

(B) If the CH_4 concentration is determined on a dry basis and flow is determined on a wet basis or CH_4 concentration is determined on a wet basis and flow is determined on a dry basis, and the flow meter does not automatically correct for moisture content, determine the moisture content in the landfill gas that is collected and routed to a destruction device (before any treatment equipment) in a location near or representative of the location of the gas flow meter at least once each calendar month; if only one measurement is made each calendar month, there must be at least fourteen days between measurements.

(c) For all landfills, calculate CH_4 generation (adjusted for oxidation in cover materials) and actual CH_4 emissions (taking into account any CH_4 recovery, and oxidation in cover materials) according to the applicable methods in paragraphs (c)(1) through (c)(3) of this section.

(1) Calculate CH_4 generation, adjusted for oxidation, from the modeled CH_4 (G_{CH_4} from Equation HH–1 of this section) using Equation HH–5 of this section.

$$MG = G_{CH4} \times (1 - OX) \qquad \text{(Eq. HH-5)}$$

Where:

MG = Methane generation, adjusted for oxidation, from the landfill in the reporting year (metric tons CH_4).

G_{CH4} = Modeled methane generation rate in reporting year from Equation HH–1 of this section (metric tons CH_4).

OX = Oxidation fraction. Use the appropriate oxidation fraction default value from Table HH–4 of this subpart.

(2) For landfills that do not have landfill gas collection systems, the CH_4

emissions are equal to the CH_4 generation (MG) calculated in Equation HH–5 of this section.

(3) For landfills with landfill gas collection systems, calculate CH_4 emissions using the methodologies specified in paragraphs (c)(3)(i) and (c)(3)(ii) of this section.

(i) Calculate CH_4 emissions from the modeled CH_4 generation and measured CH_4 recovery using Equation HH–6 of this section.

$$\text{Emissions} = \left[\left(G_{CH4} - \sum_{n-1}^{N} R_n\right) \times (1 - OX) + \sum_{n-1}^{N} \left\{R_n \times \left(1 - \left(DE_n \times f_{Dest,n}\right)\right)\right\}\right] \quad \text{(Eq. HH-6)}$$

Where:

Emissions = Methane emissions from the landfill in the reporting year (metric tons CH_4).

G_{CH4} = Modeled methane generation rate in reporting year from Equation HH–1 of this section or the quantity of recovered CH_4 from Equation HH–4 of this section, whichever is greater (metric tons CH_4).

N = Number of landfill gas measurement locations (associated with a destruction device or gas sent off-site). If a single monitoring location is used to monitor volumetric flow and CH_4 concentration of the recovered gas sent to one or multiple destruction devices, then N=1.

R_n = Quantity of recovered CH_4 from Equation HH–4 of this section for the nth measurement location (metric tons).

OX = Oxidation fraction. Use the appropriate oxidation fraction default value from Table HH–4 of this subpart.

DE_n = Destruction efficiency (lesser of manufacturer's specified destruction efficiency and 0.99) for the nth measurement location. If the gas is transported off-site for destruction, use DE = 1. If the volumetric flow and CH_4 concentration of the recovered gas is measured at a single location providing landfill gas to multiple destruction devices (including some gas destroyed on-site and some gas sent off-site for destruction), calculate DE_n as the arithmetic average of the DE values determined for each destruction device associated with that measurement location.

$f_{Dest,n}$ = Fraction of hours the destruction device associated with the nth measurement location was operating during active gas flow calculated as the annual operating hours for the destruction device divided by the annual hours flow was sent to the destruction device as measured at the nth measurement location. If the gas is transported off-site for destruction, use $f_{Dest,n}$= 1. If the volumetric flow and CH_4 concentration of the recovered gas is measured at a single location providing landfill gas to multiple destruction devices (including some gas destroyed on-site and some gas sent off-site for destruction), calculate $f_{Dest,n}$ as the arithmetic average of the f_{Dest} values determined for each destruction device associated with that measurement location.

(ii) Calculate CH_4 generation and CH_4 emissions using measured CH_4 recovery and estimated gas collection efficiency and Equations HH–7 and HH–8 of this section.

$$MG = \frac{1}{CE} \sum_{n=1}^{N} \left[\frac{R_n}{f_{Rec,n}}\right] \times (1 - OX) \quad \text{(Eq. HH-7)}$$

$$\text{Emissions} = \left[\left(\frac{1}{CE}\left\{\sum_{n-1}^{N}\left[\frac{R_n}{f_{Rec,n}}\right]\right\} - \sum_{n-1}^{N} R_n\right) \times (1 - OX) + \sum_{n=1}^{N} \left\{R_n \times \left(1 - \left(DE_n \times f_{Dest,n}\right)\right)\right\}\right] \quad \text{(Eq. HH-8)}$$

Where:

MG = Methane generation, adjusted for oxidation, from the landfill in the reporting year (metric tons CH_4).

Emissions = Methane emissions from the landfill in the reporting year (metric tons CH_4).

N = Number of landfill gas measurement locations (associated with a destruction device or gas sent off-site). If a single monitoring location is used to monitor volumetric flow and CH_4 concentration of the recovered gas sent to one or multiple destruction devices, then N=1.

R_n = Quantity of recovered CH_4 from Equation HH–4 of this section for the nth measurement location (metric tons CH_4).

CE = Collection efficiency estimated at landfill, taking into account system coverage, operation, and cover system materials from Table HH–3 of this subpart. If area by soil cover type information is not available, use default value of 0.75 (CE4 in table HH–3 of this subpart) for all areas under active influence of the collection system.

$f_{Rec,n}$ = Fraction of hours the recovery system associated with the nth measurement location was operating (annual operating hours/8760 hours per year or annual operating hours/8784 hours per year for a leap year).

OX = Oxidation fraction. Use appropriate oxidation fraction default value from Table HH–4 of this subpart.

DE_n = Destruction efficiency, (lesser of manufacturer's specified destruction efficiency and 0.99) for the nth measurement location. If the gas is transported off-site for destruction, use DE = 1. If the volumetric flow and CH_4 concentration of the recovered gas is measured at a single location providing landfill gas to multiple destruction devices (including some gas destroyed on-site and some gas sent off-site for destruction), calculate DE_n as the arithmetic average of the DE values determined for each destruction device associated with that measurement location.

$f_{Dest,n}$ = Fraction of hours the destruction device associated with the nth measurement location was operating during active gas flow calculated as the annual operating hours for the destruction device divided by the annual hours flow was sent to the destruction device as measured at the nth measurement location. If the gas is transported off-site for destruction, use $f_{Dest,n}$= 1. If the volumetric flow and CH_4 concentration of the recovered gas is measured at a single location providing landfill gas to multiple destruction devices (including some gas destroyed on-site and some gas sent off-site for destruction), calculate $f_{Dest,n}$ as the arithmetic average of the f_{Dest} values determined for each destruction device associated with that measurement location.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66470, Oct. 28, 2010; 78 FR 71968, Nov. 29, 2013]

§ 98.344 Monitoring and QA/QC requirements.

(a) Mass measurement equipment used to determine the quantity of waste landfilled on or after January 1, 2010 must meet the requirements for weighing equipment as described in ''Specifications, Tolerances, and Other Technical Requirements For Weighing and Measuring Devices'' NIST Handbook 44 (2009) (incorporated by reference, see § 98.7).

(b) For landfills with gas collection systems, operate, maintain, and calibrate a gas composition monitor capable of measuring the concentration of CH_4 in the recovered landfill gas using one of the methods specified in paragraphs (b)(1) through (b)(6) of this section or as specified by the manufacturer. Gas composition monitors shall be calibrated prior to the first reporting year and recalibrated either annually or at the minimum frequency specified by the manufacturer, whichever is more frequent, or whenever the error in the midrange calibration check exceeds ±10 percent.

(1) Method 18 at 40 CFR part 60, appendix A–6.

(2) ASTM D1945–03, Standard Test Method for Analysis of Natural Gas by Gas Chromatography (incorporated by reference, *see* § 98.7).

(3) ASTM D1946–90 (Reapproved 2006), Standard Practice for Analysis of Reformed Gas by Gas Chromatography (incorporated by reference, *see* § 98.7).

(4) GPA Standard 2261–00, Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography.

(5) UOP539–97 Refinery Gas Analysis by Gas Chromatography (incorporated by reference, see § 98.7).

(6) As an alternative to the gas chromatography methods provided in paragraphs (b)(1) through (b)(5) of this section, you may use total gaseous organic concentration analyzers and calculate the methane concentration following the requirements in paragraphs (b)(6)(i) through (b)(6)(iii) of this section.

(i) Use Method 25A or 25B at 40 CFR part 60, appendix A–7 to determine total gaseous organic concentration. You must calibrate the instrument with methane and determine the total

gaseous organic concentration as carbon (or as methane; K=1 in Equation 25A–1 of Method 25A at 40 CFR part 60, appendix A–7).

(ii) Determine a non-methane organic carbon correction factor at the routine sampling location no less frequently than once a reporting year following the requirements in paragraphs (b)(6)(ii)(A) through (b)(6)(ii)(C) of this section.

(A) Take a minimum of three grab samples of the landfill gas with a minimum of 20 minutes between samples and determine the methane composition of the landfill gas using one of the methods specified in paragraphs (b)(1) through (b)(5) of this section.

(B) As soon as practical after each grab sample is collected and prior to the collection of a subsequent grab sample, determine the total gaseous organic concentration of the landfill gas using either Method 25A or 25B at 40 CFR part 60, appendix A–7 as specified in paragraph (b)(6)(i) of this section.

(C) Determine the arithmetic average methane concentration and the arithmetic average total gaseous organic concentration of the samples analyzed according to paragraphs (b)(6)(ii)(A) and (b)(6)(ii)(B) of this section, respectively, and calculate the non-methane organic carbon correction factor as the ratio of the average methane concentration to the average total gaseous organic concentration. If the ratio exceeds 1, use 1 for the non-methane organic carbon correction factor.

(iii) Calculate the methane concentration as specified in Equation HH–9 of this section.

$$C_{CH4} = f_{NMOC} \times C_{TGOC} \qquad \text{(Eq. HH-9)}$$

Where:

C_{CH4} = Methane concentration in the landfill gas (volume %) for use in Equation HH–4 of this subpart.

f_{NMOC} = Non-methane organic carbon correction factor from the most recent determination of the non-methane organic carbon correction factor as specified in paragraph (b)(6)(ii) of this section (unitless).

C_{TGOC} = Total gaseous organic carbon concentration measured using Method 25A or 25B at 40 CFR part 60, appendix A–7 during routine monitoring of the landfill gas (volume %).

(c) For landfills with gas collection systems, install, operate, maintain, and calibrate a gas flow meter capable of measuring the volumetric flow rate of the recovered landfill gas using one of the methods specified in paragraphs (c)(1) through (c)(8) of this section or as specified by the manufacturer. Each gas flow meter shall be recalibrated either biennially (every 2 years) or at the minimum frequency specified by the manufacturer. Except as provided in § 98.343(b)(2)(i), each gas flow meter must be capable of correcting for the temperature and pressure and, if necessary, moisture content.

(1) ASME MFC–3M–2004, Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi (incorporated by reference, *see* § 98.7).

(2) ASME MFC–4M–1986 (Reaffirmed 1997), Measurement of Gas Flow by Turbine Meters (incorporated by reference, *see* § 98.7).

(3) ASME MFC–6M–1998, Measurement of Fluid Flow in Pipes Using Vortex Flowmeters (incorporated by reference, *see* § 98.7).

(4) ASME MFC–7M–1987 (Reaffirmed 1992), Measurement of Gas Flow by Means of Critical Flow Venturi Nozzles (incorporated by reference, *see* § 98.7).

(5) ASME MFC–11M–2006 Measurement of Fluid Flow by Means of Coriolis Mass Flowmeters (incorporated by reference, *see* § 98.7). The mass flow must be corrected to volumetric flow based on the measured temperature, pressure, and gas composition.

(6) ASME MFC–14M–2003 Measurement of Fluid Flow Using Small Bore Precision Orifice Meters (incorporated by reference, *see* § 98.7).

(7) ASME MFC–18M–2001 Measurement of Fluid Flow using Variable Area Meters (incorporated by reference, *see* § 98.7).

(8) Method 2A or 2D at 40 CFR part 60, appendix A–1.

(d) All temperature, pressure, and if necessary, moisture content monitors must be calibrated using the procedures and frequencies specified by the manufacturer.

(e) For landfills electing to measure the fraction by volume of CH_4 in landfill gas (F), follow the requirements in paragraphs (e)(1) and (2) of this section.

(1) Use a gas composition monitor capable of measuring the concentration of CH_4 on a dry basis that is properly operated, calibrated, and maintained according to the requirements specified in paragraph (b) of this section. You must either use a gas composition monitor that is also capable of measuring the O_2 concentration correcting for excess (infiltration) air or you must operate, maintain, and calibrate a second monitor capable of measuring the O_2 concentration on a dry basis according to the manufacturer's specifications.

(2) Use Equation HH–10 of this section to correct the measured CH_4 concentration to 0% oxygen. If multiple CH_4 concentration measurements are made during the reporting year, determine F separately for each measurement made during the reporting year, and use the results to determine the arithmetic average value of F for use in Equation HH–1 of this part.

$$F = \left(\frac{C_{CH4}}{100\%}\right) \times \left[20.9_c \Big/ \left(20.9 - \%O_2\right)\right] \qquad \text{(Eq. HH-10)}$$

Where:

F = Fraction by volume of CH_4 in landfill gas (fraction, dry basis, corrected to 0% oxygen).

C_{CH4} = Measured CH_4 concentration in landfill gas (volume %, dry basis).

20.9_c = Defined O_2 correction basis, (volume %, dry basis).

20.9 = O_2 concentration in air (volume %, dry basis).

$\%O_2$ = Measured O_2 concentration in landfill gas (volume %, dry basis).

(f) The owner or operator shall document the procedures used to ensure the accuracy of the estimates of disposal quantities and, if applicable, gas flow rate, gas composition, temperature, pressure, and moisture content measurements. These procedures include, but are not limited to, calibration of weighing equipment, fuel flow meters, and other measurement devices. The estimated accuracy of measurements made with these devices, and the technical basis for these estimates shall be recorded.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66472, Oct. 28, 2010; 78 FR 71969, Nov. 29, 2013]

§ 98.345 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable (e.g., if a meter malfunctions during unit operation or if a required fuel sample is not taken), a substitute data value for the missing parameter shall be used in the calculations, according to the requirements in paragraphs (a) through (c) of this section.

(a) For each missing value of the CH_4 content, the substitute data value shall be the arithmetic average of the quality-assured values of that parameter immediately preceding and immediately following the missing data incident. If the ''after'' value is not obtained by the end of the reporting year, you may use the ''before'' value for the missing data substitution. If, for a particular parameter, no quality-assured data are available prior to the missing data incident, the substitute data value shall be the first quality-assured value obtained after the missing data period.

(b) For missing gas flow rates, the substitute data value shall be the arithmetic average of the quality-assured values of that parameter immediately preceding and immediately following the missing data incident. If the ''after'' value is not obtained by the end of the reporting year, you may use the ''before'' value for the missing data substitution. If, for a particular parameter, no quality-assured data are available prior to the missing data incident, the substitute data value shall be the first quality-assured value obtained after the missing data period.

(c) For missing daily waste disposal quantity data for disposal in the reporting year, the substitute value shall be the average daily waste disposal quantity for that day of the week as measured on the week before and week after the missing daily data.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71970, Nov. 29, 2013]

§ 98.346 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the following information for each landfill.

(a) A classification of the landfill as ''open'' (actively received waste in the reporting year) or ''closed'' (no longer receiving waste), the year in which the landfill first started accepting waste for disposal, the last year the landfill accepted waste (for open landfills, enter the estimated year of landfill closure), the capacity (in metric tons) of the landfill, an indication of whether leachate recirculation is used during the reporting year and its typical frequency of use over the past 10 years (e.g., used several times a year for the past 10 years, used at least once a year for the past 10 years, used occasionally but not every year over the past 10 years, not used), an indication as to whether scales are present at the landfill, and the waste disposal quantity for each year of landfilling required to be included when using Equation HH–1 of this subpart (in metric tons, wet weight).

(b) Method for estimating reporting year and historical waste disposal quantities, reason for its selection, and the range of years it is applied. For years when waste quantity data are determined using the methods in § 98.343(a)(3), report separately the quantity of waste determined using the methods in § 98.343(a)(3)(i) and the quantity of waste determined using the methods in § 98.343(a)(3)(ii). For historical waste disposal quantities that were not determined using the methods in § 98.343(a)(3), provide the population served by the landfill for each year the Equation HH–2 of this subpart is applied, if applicable, or, for open landfills using Equation HH–3 of this subpart, provide the value of landfill capacity (LFC) used in the calculation.

(c) Waste composition for each year required for Equation HH–1 of this subpart, in percentage by weight, for each waste category listed in Table HH–1 to this subpart that is used in Equation HH–1 of this subpart to calculate the annual modeled CH_4 generation.

(d) For each waste type used to calculate CH_4 generation using Equation HH–1 of this subpart, you must report:

(1) Degradable organic carbon (DOC) and fraction of DOC dissimilated (DOC_F) values used in the calculations.

(2) Decay rate (k) value used in the calculations.

(e) Fraction of CH_4 in landfill gas (F), an indication of whether the fraction of CH_4 was determined based on measured values or the default value, and the methane correction factor (MCF) used in the calculations. If an MCF other than the default of 1 is used, provide an indication of whether active aeration of the waste in the landfill was conducted during the reporting year, a description of the aeration system, including aeration blower capacity, the fraction of the landfill containing waste affected by aeration, the total number of hours during the year the aeration blower was operated, and other factors used as a basis for the selected MCF value.

(f) The surface area of the landfill containing waste (in square meters), identification of the type of cover material used (as either organic cover, clay cover, sand cover, or other soil mixtures). If multiple cover types are used, the surface area associated with each cover type.

(g) The modeled annual methane generation rate for the reporting year (metric tons CH_4) calculated using Equation HH–1 of this subpart.

(h) For landfills without gas collection systems, the annual methane emissions (i.e., the methane generation, adjusted for oxidation, calculated using Equation HH–5 of this subpart), reported in metric tons CH_4, the oxidation fraction used in the calculation, and an indication of whether passive vents and/or passive flares (vents or flares that are not considered part of the gas collection system as defined in § 98.6) are present at this landfill.

(i) For landfills with gas collection systems, you must report:

(1) Total volumetric flow of landfill gas collected for destruction for the reporting year (cubic feet at 520 °R or 60 degrees Fahrenheit and 1 atm).

(2) Annual average CH_4 concentration of landfill gas collected for destruction (percent by volume).

(3) Monthly average temperature and pressure for each month at which flow is measured for landfill gas collected for destruction, or statement that temperature and/or pressure is incorporated into internal calculations run by the monitoring equipment.

(4) An indication as to whether flow was measured on a wet or dry basis, an indication as to whether CH_4 concentration was measured on a wet or dry basis, and if required for Equation HH–4 of this subpart, monthly average moisture content for each month at which flow is measured for landfill gas collected for destruction.

(5) An indication of whether destruction occurs at the landfill facility, offsite, or both. If destruction occurs at the landfill facility, also report for each measurement location the number of destruction devices associated with that measurement location and the annual operating hours and the destruction efficiency (percent) for each destruction device associated with that measurement location.

(6) Annual quantity of recovered CH_4 (metric tons CH_4) calculated using Equation HH–4 of this subpart for each measurement location.

(7) A description of the gas collection system (manufacturer, capacity, and number of wells), the surface area (square meters) and estimated waste depth (meters) for each area specified in Table HH–3 to this subpart, the estimated gas collection system efficiency for landfills with this gas collection system, the annual operating hours of the gas collection system for each measurement location, and an indication of whether passive vents and/or passive flares (vents or flares that are not considered part of the gas collection system as defined in § 98.6) are present at the landfill.

(8) Methane generation corrected for oxidation calculated using Equation HH–5 of this subpart, reported in metric tons CH_4, and the oxidation fraction used in the calculation.

(9) Methane generation (G_{CH4}) value used as an input to Equation HH–6 of this subpart. Specify whether the value is modeled (G_{CH4} from HH–1 of this subpart) or measured (R from Equation HH–4 of this subpart).

(10) Methane generation corrected for oxidation calculated using Equation HH–7 of this subpart, reported in metric tons CH_4, and the oxidation fraction used in the calculation.

(11) Methane emissions calculated using Equation HH–6 of this subpart, reported in metric tons CH_4, and the oxidation fraction used in the calculation.

(12) Methane emissions calculated using Equation HH–8 of this subpart, reported in metric tons CH_4, and the oxidation fraction used in the calculation.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66472, Oct. 28, 2010; 78 FR 71970, Nov. 29, 2013]

§ 98.347 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain the calibration records for all monitoring equipment, including the method or manufacturer's specification used for calibration. You must retain records of all measurements made to determine tare weights and working capacities by vehicle/container type if these are used to determine the annual waste quantities.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66473, Oct. 28, 2010]

§ 98.348 Definitions.

Except as specified in this section, all terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Construction and demolition (C&D) waste landfill means a solid waste disposal facility subject to the requirements of part 257, subparts A or B of this chapter that receives construction and demolition waste and does not receive hazardous waste (defined in § 261.3 of this chapter) or industrial solid waste (defined in § 258.2 of this chapter) or municipal solid waste (as defined in § 98.6) other than residential lead-based paint waste. A C&D waste landfill typically receives any one or more of the

following types of solid wastes: Roadwork material, excavated material, demolition waste, construction/renovation waste, and site clearance waste.

Destruction device means a flare, thermal oxidizer, boiler, turbine, internal combustion engine, or any other combustion unit used to destroy or oxidize methane contained in landfill gas.

Industrial waste landfill means any landfill other than a municipal solid waste landfill, a RCRA Subtitle C hazardous waste landfill, or a TSCA hazardous waste landfill, in which industrial solid waste, such a RCRA Subtitle D wastes (nonhazardous industrial solid waste, defined in §257.2 of this chapter), commercial solid wastes, or conditionally exempt small quantity generator wastes, is placed. An industrial waste landfill includes all disposal areas at the facility.

Landfill capacity means the maximum amount of solid waste a landfill can accept. For the purposes of this subpart, for landfills that have a permit, the *landfill capacity* can be determined in terms of volume or mass in the most recent permit issued by the state, local, or Tribal agency responsible for regulating the landfill, plus any in-place waste not accounted for in the most recent permit. If the owner or operator chooses to convert from volume to mass to determine its capacity, the calculation must include a site-specific density.

Leachate recirculation means the practice of taking the leachate collected from the landfill and reapplying it to the landfill by any of one of a variety of methods, including pre-wetting of the waste, direct discharge into the working face, spraying, infiltration ponds, vertical injection wells, horizontal gravity distribution systems, and pressure distribution systems.

Solid waste has the meaning established by the Administrator pursuant to the Solid Waste Disposal Act (42 U.S.C.A. 6901 *et seq.*).

Working capacity means the maximum volume or mass of waste that is actually placed in the landfill from an individual or representative type of container (such as a tank, truck, or roll-off bin) used to convey wastes to the landfill, taking into account that the container may not be able to be 100 percent filled and/or 100 percent emptied for each load.

[75 FR 66473, Oct. 28, 2010, as amended at 78 FR 71970, Nov. 29, 2013]

TABLE HH–1 TO SUBPART HH OF PART 98—EMISSIONS FACTORS, OXIDATION FACTORS AND METHODS

Factor	Default value	Units
DOC and k values—Bulk waste option		
DOC (bulk waste)	0.20	Weight fraction, wet basis.
k (precipitation plus recirculated leachate[a] <20 inches/year)	0.02	yr^{-1}
k (precipitation plus recirculated leachate[a] 20–40 inches/year)	0.038	yr^{-1}
k (precipitation plus recirculated leachate[a] >40 inches/year)	0.057	yr^{-1}
DOC and k values—Modified bulk MSW option		
DOC (bulk MSW, excluding inerts and C&D waste)	0.31	Weight fraction, wet basis.
DOC (inerts, e.g., glass, plastics, metal, concrete)	0.00	Weight fraction, wet basis.
DOC (C&D waste)	0.08	Weight fraction, wet basis.
k (bulk MSW, excluding inerts and C&D waste)	0.02 to 0.057[b]	yr^{-1}
k (inerts, e.g., glass, plastics, metal, concrete)	0.00	yr^{-1}
k (C&D waste)	0.02 to 0.04[b]	yr^{-1}
DOC and k values—Waste composition option		
DOC (food waste)	0.15	Weight fraction, wet basis.
DOC (garden)	0.2	Weight fraction, wet basis.
DOC (paper)	0.4	Weight fraction, wet basis.
DOC (wood and straw)	0.43	Weight fraction, wet basis.
DOC (textiles)	0.24	Weight fraction, wet basis.
DOC (diapers)	0.24	Weight fraction, wet basis.
DOC (sewage sludge)	0.05	Weight fraction, wet basis.
DOC (inerts, e.g., glass, plastics, metal, cement)	0.00	Weight fraction, wet basis.
k (food waste)	0.06 to 0.185[c]	yr^{-1}
k (garden)	0.05 to 0.10[c]	yr^{-1}

Factor	Default value	Units
k (paper)	0.04 to 0.06[c]	yr^{-1}
k (wood and straw)	0.02 to 0.03[c]	yr^{-1}
k (textiles)	0.04 to 0.06[c]	yr^{-1}
k (diapers)	0.05 to 0.10[c]	yr^{-1}
k (sewage sludge)	0.06 to 0.185[c]	yr^{-1}
k (inerts e.g., glass, plastics, metal, concrete)	0.00	yr^{-1}
Other parameters—All MSW landfills		
MCF	1.	
DOC_F	0.5.	
F	0.5.	
OX	See Table HH–4 of this subpart.	
DE	0.99.	

[a] Recirculated leachate (in inches/year) is the total volume of leachate recirculated from company records or engineering estimates divided by the area of the portion of the landfill containing waste with appropriate unit conversions. Alternatively, landfills that use leachate recirculation can elect to use the k value of 0.057 rather than calculating the recirculated leachate rate.

[b] Use the lesser value when precipitation plus recirculated leachate is less than 20 inches/year. Use the greater value when precipitation plus recirculated leachate is greater than 40 inches/year. Use the average of the range of values when precipitation plus recirculated leachate is 20 to 40 inches/year (inclusive). Alternatively, landfills that use leachate recirculation can elect to use the greater value rather than calculating the recirculated leachate rate.

[c] Use the lesser value when the potential evapotranspiration rate exceeds the mean annual precipitation rate plus recirculated leachate. Use the greater value when the potential evapotranspiration rate does not exceed the mean annual precipitation rate plus recirculated leachate. Alternatively, landfills that use leachate recirculation can elect to use the greater value rather than assessing the potential evapotranspiration rate or recirculated leachate rate.

[75 FR 66473, Oct. 28, 2010, as amended at 78 FR 71970, Nov. 29, 2013]

Table HH–2 to Subpart HH of Part 98—U.S. Per Capita Waste Disposal Rates

Year	Waste per capita ton/cap/yr
1950	0.63
1951	0.63
1952	0.63
1953	0.63
1954	0.63
1955	0.63
1956	0.63
1957	0.63
1958	0.63
1959	0.63
1960	0.63
1961	0.64
1962	0.64
1963	0.65
1964	0.65
1965	0.66
1966	0.66
1967	0.67
1968	0.68
1969	0.68
1970	0.69
1971	0.69
1972	0.70
1973	0.71
1974	0.71
1975	0.72
1976	0.73
1977	0.73
1978	0.74
1979	0.75
1980	0.75
1981	0.76
1982	0.77
1983	0.77
1984	0.78
1985	0.79
1986	0.79
1987	0.80
1988	0.80
1989	0.83
1990	0.82
1991	0.76
1992	0.74
1993	0.76
1994	0.75
1995	0.70
1996	0.68
1997	0.69
1998	0.75
1999	0.75
2000	0.80
2001	0.91
2002	1.02
2003	1.02
2004	1.01
2005	0.98
2006	0.95
2007	0.95
2008	0.95
2009 and all later years	0.95

[78 FR 71971, Nov. 29, 2013]

Table HH–3 to Subpart HH of Part 98—Landfill Gas Collection Efficiencies

Description	Landfill Gas Collection Efficiency
A1: Area with no waste in-place	Not applicable; do not use this area in the calculation.

Description	Landfill Gas Collection Efficiency
A2: Area without active gas collection, regardless of cover type	CE2: 0%.
A3: Area with daily soil cover and active gas collection	CE3: 60%.
A4: Area with an intermediate soil cover, or a final soil cover not meeting the criteria for A5 below, and active gas collection.	CE4: 75%.
A5: Area with a final soil cover of 3 feet or thicker of clay and/or geomembrane cover system and active gas collection.	CE5: 95%.
Area weighted average collection efficiency for landfills	CEave1 = (A2*CE2 + A3*CE3 + A4*CE4 + A5*CE5) / (A2 + A3 + A4 + A5).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66474, Oct. 28, 2010]

Table HH–4 to Subpart HH of Part 98—Landfill Methane Oxidation Fractions

Under these conditions:	Use this landfill methane oxidation fraction:
I. For all reporting years prior to the 2013 reporting year	
C1: For all landfills regardless of cover type or methane flux	0.10
II. For the 2013 reporting year and all subsequent years	
C2: For landfills that have a geomembrane (synthetic) cover with less than 12 inches of cover soil for the majority of the landfill area containing waste	0.0
C3: For landfills that do not meet the conditions in C2 above, and for which you elect not to determine methane flux	0.10
C4: For landfills that do not meet the conditions in C2 above and that do not have a soil cover of at least 24 inches for a majority of the landfill area containing waste	0.10
C5: For landfills that have a soil cover of at least 24 inches for a majority of the landfill area containing waste and for which the methane flux rate is less than 10 grams per square meter per day ($g/m^2/d$)	0.35
C6: For landfills that have a soil cover of at least 24 inches for a majority of the landfill area containing waste and for which the methane flux rate is 10 to 70 $g/m^2/d$	0.25
C7: For landfills that have a soil cover of at least 24 inches for a majority of the landfill area containing waste and for which the methane flux rate is greater than 70 $g/m^2/d$	0.10

[a] Methane flux rate (in grams per square meter per day; $g/m^2/d$) is the mass flow rate of methane per unit area at the bottom of the surface soil prior to any oxidation and is calculated as follows:

For Equation HH-5 of this subpart, or for Equation TT-6 of subpart TT of this part,

$$MF = K \times G_{CH4} / SArea$$

For Equation HH-6 of this subpart,

$$MF = K \times \left(G_{CH4} - \sum_{n-1}^{N} R_n \right) \Big/ SArea$$

For Equations HH-7 of this subpart,

$$MF = K \times \left(\frac{1}{CE} \sum_{n-1}^{N} \left[\frac{R_n}{f_{Rec,n}} \right] \right) \Big/ SArea$$

For Equation HH-8 of this subpart,

$$MF = K \times \left(\frac{1}{CE} \left\{ \sum_{n-1}^{N} \left[\frac{R_n}{f_{Rec,n}} \right] \right\} - \sum_{n-1}^{N} R_n \right) \Big/ SArea$$

Where:

MF = Methane flux rate from the landfill in the reporting year (grams per square meter per day, $g/m^2/d$).

K = unit conversion factor = $10^6/365$ (g/metric ton per days/year) or $10^6/366$ for a leap year.

SArea = The surface area of the landfill containing waste at the beginning of the reporting year (square meters, m^2).

G_{CH4} = Modeled methane generation rate in reporting year from Equation HH–1 of this subpart or Equation TT–1 of subpart TT of this part, as applicable, except for application with Equation HH–6 of this subpart (metric tons CH_4). For application with Equation HH–6 of this subpart, the greater of the modeled methane generation rate in reporting year from Equation HH–1 of this subpart or Equation TT–1 of this part, as applicable, and the quantity of recovered CH_4 from Equation HH–4 of this subpart (metric tons CH_4).

CE = Collection efficiency estimated at landfill, taking into account system coverage, operation, and cover system materials from Table HH–3 of this subpart. If area by soil cover type information is not available, use default value of 0.75 (CE4 in table HH–3 of this subpart) for all areas under active influence of the collection system.

N = Number of landfill gas measurement locations (associated with a destruction device or gas sent off-site). If a single monitoring location is used to monitor volumetric flow and CH_4 concentration of the recovered gas sent to one or multiple destruction devices, then N=1.

R_n = Quantity of recovered CH_4 from Equation HH–4 of this subpart for the nth measurement location (metric tons).

$f_{Rec,n}$ = Fraction of hours the recovery system associated with the nth measurement location was operating (annual operating hours/8760 hours per year or annual operating hours/8784 hours per year for a leap year).

[78 FR 71971, Nov. 29, 2013]

Subpart II—Industrial Wastewater Treatment

SOURCE: 75 FR 39767, July 12, 2010, unless otherwise noted.

§ 98.350 Definition of source category.

(a) This source category consists of anaerobic processes used to treat industrial wastewater and industrial

wastewater treatment sludge at facilities that perform the operations listed in this paragraph.

(1) Pulp and paper manufacturing.

(2) Food processing.

(3) Ethanol production.

(4) Petroleum refining.

(b) An *anaerobic process* is a procedure in which organic matter in wastewater, wastewater treatment sludge, or other material is degraded by micro-organisms in the absence of oxygen, resulting in the generation of CO_2 and CH_4. This source category consists of the following: anaerobic reactors, anaerobic lagoons, anaerobic sludge digesters, and biogas destruction devices (for example, burners, boilers, turbines, flares, or other devices).

(1) An *anaerobic reactor* is an enclosed vessel used for anaerobic wastewater treatment (*e.g.*, upflow anaerobic sludge blanket, fixed film).

(2) An*anaerobic sludge digester* is an enclosed vessel in which wastewater treatment sludge is degraded anaerobically.

(3) An*anaerobic lagoon* is a lined or unlined earthen basin used for wastewater treatment, in which oxygen is absent throughout the depth of the basin, except for a shallow surface zone. Anaerobic lagoons are not equipped with surface aerators. Anaerobic lagoons are classified as deep (depth more than 2 meters) or shallow (depth less than 2 meters).

(c) This source category does not include municipal wastewater treatment plants or separate treatment of sanitary wastewater at industrial sites.

[75 FR 39767, July 12, 2010, as amended at 76 FR 73903, Nov. 29, 2011]

§ 98.351 Reporting threshold.

You must report GHG emissions under this subpart if your facility meets all of the conditions under paragraphs (a) or (b) of this section:

(a) *Petroleum refineries and pulp and paper manufacturing*. (1) The facility is subject to reporting under subpart Y of this part (Petroleum Refineries) or subpart AA of this part (Pulp and Paper Manufacturing).

(2) The facility meets the requirements of either § 98.2(a)(1) or (2).

(3) The facility operates an anaerobic process to treat industrial wastewater and/or industrial wastewater treatment sludge.

(b) *Ethanol production and food processing facilities*. (1) The facility performs an ethanol production or food processing operation, as defined in § 98.358 of this subpart.

(2) The facility meets the requirements of § 98.2(a)(2).

(3) The facility operates an anaerobic process to treat industrial wastewater and/or industrial wastewater treatment sludge.

§ 98.352 GHGs to report.

(a) You must report CH_4 generation, CH_4 emissions, and CH_4 recovered from treatment of industrial wastewater at each anaerobic lagoon and anaerobic reactor.

(b) You must report CH_4 emissions and CH_4 recovered from each anaerobic sludge digester.

(c) You must report CH_4 emissions and CH_4 destruction resulting from each biogas collection and biogas destruction device.

(d) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, CH_4, and N_2O from each stationary combustion unit associated with the biogas destruction device, if present, by following the requirements of subpart C of this part.

[75 FR 39767, July 12, 2010, as amended at 76 FR 73903, Nov. 29, 2011]

§ 98.353 Calculating GHG emissions.

(a) For each anaerobic reactor and anaerobic lagoon, estimate the annual mass of CH_4 generated according to the applicable requirements in paragraphs (a)(1) through (a)(2) of this section.

(1) If you measure the concentration of organic material entering the anaerobic reactors or anaerobic lagoon using methods for the determination of chemical oxygen demand (COD), then estimate annual mass of CH_4 generated using Equation II–1 of this section.

$$CH_4G_n = \sum_{w=1}^{52}\left[Flow_w * COD_w * B_o * MCF * 0.001\right] \qquad \text{(Eq. II-1)}$$

Where:

CH_4G_n = Annual mass CH_4 generated from the nth anaerobic wastewater treatment process (metric tons).

n = Index for processes at the facility, used in Equation II–7.

w = Index for weekly measurement period.

$Flow_w$ = Volume of wastewater sent to an anaerobic wastewater treatment process in week w (m^3/week), measured as specified in §98.354(d).

COD_w = Average weekly concentration of chemical oxygen demand of wastewater entering an anaerobic wastewater treatment process (for week w)(kg/m^3), measured as specified in §98.354(b) and (c).

B_0 = Maximum CH_4 producing potential of wastewater (kg CH_4/kg COD), use the value 0.25.

MCF = CH_4 conversion factor, based on relevant values in Table II–1 of this subpart.

0.001 = Conversion factor from kg to metric tons.

(2) If you measure the concentration of organic material entering an anaerobic reactor or anaerobic lagoon using methods for the determination of 5-day biochemical oxygen demand (BOD_5), then estimate annual mass of CH_4 generated using Equation II–2 of this section.

$$CH_4G_n = \sum_{w=1}^{52}\left[Flow_w * BOD_{5,w} * B_o * MCF * 0.001\right] \qquad \text{(Eq. II-2)}$$

Where:

CH_4G_n = Annual mass of CH_4 generated from the anaerobic wastewater treatment process (metric tons).

n = Index for processes at the facility, used in Equation II–7.

w = Index for weekly measurement period.

$Flow_w$ = Volume of wastewater sent to an anaerobic wastewater treatment process in week w(m^3/week), measured as specified in §98.354(d).

$BOD_{5,w}$ = Average weekly concentration of 5-day biochemical oxygen demand of wastewater entering an anaerobic wastewater treatment process for week w(kg/m^3), measured as specified in §98.354(b) and (c).

B_0 = Maximum CH_4 producing potential of wastewater (kg CH_4/kg BOD_5), use the value 0.6.

MCF = CH_4 conversion factor, based on relevant values in Table II–1 to this subpart.

0.001 = Conversion factor from kg to metric tons.

(b) For each anaerobic reactor and anaerobic lagoon from which biogas is not recovered, estimate annual CH_4 emissions using Equation II–3 of this section.

$$CH_4E_n = CH_4G_n \qquad \text{(Eq. II-3)}$$

Where:

CH_4E_n = Annual mass of CH_4 emissions from the wastewater treatment process n from which biogas is not recovered (metric tons).

CH_4G_n = Annual mass of CH_4 generated from the wastewater treatment process n, as calculated in Equation II–1 or II–2 of this section (metric tons).

(c) For each anaerobic sludge digester, anaerobic reactor, or anaerobic lagoon from which some biogas is recovered, estimate the annual mass of CH_4 recovered according to the requirements in paragraphs (c)(1) and (c)(2) of this section. To estimate the annual mass of CH_4 recovered, you must continuously monitor biogas flow rate and determine the volume of biogas each week and the cumulative volume of biogas each year that is collected and routed to a destruction device as specified in §98.354(h). If the gas flow meter is not equipped with automatic correction for temperature, pressure, or, if necessary, moisture content, you must determine these parameters as specified in paragraph (c)(2)(ii) of this section.

(1) If you continuously monitor CH_4 concentration (and if necessary, temperature, pressure, and moisture content required as specified in § 98.354(f)) of the biogas that is collected and routed to a destruction device using a monitoring meter specifically for CH_4 gas, as specified in § 98.354(g), you must use this monitoring system and calculate the quantity of CH_4 recovered for destruction using Equation II–4 of this section. A fully integrated system that directly reports CH_4 quantity requires only the summing of results of all monitoring periods for a given year.

$$R_n = \sum_{m=1}^{M}\left[(V)_m * (K_{MC})_m * \frac{(C_{CH4})_m}{100\%} * 0.0423 * \frac{520^oR}{(T)_m} * \frac{(P)_m}{1\ atm} * \frac{0.454}{1,000}\right] \qquad \text{(Eq. II-4)}$$

Where:

R_n = Annual quantity of CH_4 recovered from the nth anaerobic reactor, sludge digester, or lagoon (metric tons CH_4/yr)

n = Index for processes at the facility, used in Equation II–7.

M = Total number of measurement periods in a year. Use M = 365 (M = 366 for leap years) for daily averaging of continuous monitoring, as provided in paragraph (c)(1)of this section. Use M = 52 for weekly sampling, as provided in paragraph (c)(2)of this section.

m = Index for measurement period.

V_m = Cumulative volumetric flow for the measurement period in actual cubic feet (acf). If no biogas was recovered during a monitoring period, use zero.

$(K_{MC})_m$ = Moisture correction term for the measurement period, volumetric basis.

= 1 when $(V)_m$ and $(C_{CH4})_m$ are measured on a dry basis or if both are measured on a wet basis.

= $1-(f_{H2O})_m$ when $(V)_m$ is measured on a wet basis and $(C_{CH4})_m$ is measured on a dry basis.

= $1/[1-(f_{H2O})_m]$ when $(V)_m$ is measured on a dry basis and $(C_{CH4})_m$ is measured on a wet basis.

$(f_{H2O})_m$ = Average moisture content of biogas during the measurment period, volumetric basis, (cubic feet water per cubic feet biogas).

$(C_{CH4})_m$ = Average CH_4 concentration of biogas during the measurement period, (volume %).

0.0423 = Density of CH_4 lb/cf at 520 °R or 60 °F and 1 atm.

520 °R = 520 degrees Rankine.

T_m = Average temperature at which flow is measured for the measurement period (°R). If the flow rate meter automatically corrects for temperature to 520° R, replace ''520° R/T_m'' with ''1''.

P_m = Average pressure at which flow is measured for the measurement period (atm). If the flow rate meter automatically corrects for pressure to 1 atm, replace ''P_m/1'' with ''1''.

0.454/1,000 = Conversion factor (metric ton/lb).

(2) If you do not continuously monitor CH_4 concentration according to paragraph (c)(1) of this section, you must determine the CH_4 concentration, temperature, pressure, and, if necessary, moisture content of the biogas that is collected and routed to a destruction device according to the requirements in paragraphs (c)(2)(i) through (c)(2)(ii) of this section and calculate the quantity of CH_4 recovered for destruction using Equation II–4 of this section.

(i) Determine the CH_4 concentration in the biogas that is collected and routed to a destruction device in a location near or representative of the location of the gas flow meter at least once each calendar week; if only one measurement is made each calendar week, there must be least three days between measurements. For a given calendar week, you are not required to determine CH_4 concentration if the cumulative volume of biogas for that calendar week, determined as specified in paragraph (c) of this section, is zero.

(ii) If the gas flow meter is not equipped with automatic correction for temperature, pressure, or, if necessary, moisture content:

(A) Determine the temperature and pressure in the biogas that is collected and routed to a destruction device in a location near or representative of the location of the gas flow meter at least once each calendar week; if only one measurement is made each calendar

week, there must be at least three days between measurements.

(B) If the CH_4 concentration is determined on a dry basis and biogas flow is determined on a wet basis, or CH_4 concentration is determined on a wet basis and biogas flow is determined on a dry basis, and the flow meter does not automatically correct for moisture content, determine the moisture content in the biogas that is collected and routed to a destruction device in a location near or representative of the location of the gas flow meter at least once each calendar week that the cumulative biogas flow measured as specified in § 98.354(h) is greater than zero; if only one measurement is made each calendar week, there must be at least three days between measurements.

(d) For each anaerobic sludge digester, anaerobic reactor, or anaerobic lagoon from which some quantity of biogas is recovered, you must estimate both the annual mass of CH_4 that is generated, but not recovered, according to paragraph (d)(1) of this section and the annual mass of CH_4 emitted according to paragraph (d)(2) of this section.

(1) Estimate the annual mass of CH_4 that is generated, but not recovered, using Equation II–5 of this section.

$$CH_4L_n = R_n * \left(\frac{1}{\mathrm{CE}} - 1\right) \qquad \text{(Eq. II-5)}$$

Where:

CH_4L_n = Leakage at the anaerobic process n (metric tons CH_4).

n = Index for processes at the facility, used in Equation II–7.

R_n = Annual quantity of CH_4 recovered from the nth anaerobic reactor, anaerobic lagoon, or anaerobic sludge digester, as calculated in Equation II–4 of this section (metric tons CH_4).

CE = CH_4 collection efficiency of anaerobic process n, as specified in Table II–2 of this subpart (decimal).

(2) For each anaerobic sludge digester, anaerobic reactor, or anaerobic lagoon from which some quantity of biogas is recovered, estimate the annual mass of CH_4 emitted using Equation II–6 of this section.

$$CH_4E_n = CH_4L_n + R_n\ (1 - [\ (D_{E1} * f_{Dest_1}) + (DE_2 * f_{Dest_2})]) \qquad \text{(Eq. II-6)}$$

Where:

CH_4E_n = Annual quantity of CH_4 emitted from the process n from which biogas is recovered (metric tons).

n = Index for processes at the facility, used in Equation II–7.

CH_4L_n = Leakage at the anaerobic process n, as calculated in Equation II–5 of this section (metric tons CH_4).

R_n = Annual quantity of CH_4 recovered from the nth anaerobic reactor or anaerobic sludge digester, as calculated in Equation II–4 of this section (metric tons CH_4).

DE_1 = Primary destruction device CH_4 destruction efficiency (lesser of manufacturer's specified destruction efficiency and 0.99). If the biogas is transported off-site for destruction, use DE = 1.

$f_{Dest—1}$ = Fraction of hours the primary destruction device was operating calculated as the annual hours when the destruction device was operating divided by the annual operating hours of the biogas recovery system. If the biogas is transported off-site for destruction, use f_{Dest} = 1.

DE_2 = Back-up destruction device CH_4 destruction efficiency (lesser of manufacturer's specified destruction efficiency and 0.99).

$f_{Dest—2}$ = Fraction of hours the back-up destruction device was operating calculated as the annual hours when the destruction device was operating divided by the annual operating hours of the biogas recovery system.

(e) Estimate the total mass of CH_4 emitted from all anaerobic processes from which biogas is not recovered (calculated in Eq. II–3) and all anaerobic processes from which some biogas is recovered (calculated in Equation II–6) using Equation II–7 of this section.

$$CH_4E_T = \sum_{n=1}^{j} CH_4E_n \qquad \text{(Eq. II-7)}$$

Where:

CH_4E_T = Annual mass CH_4 emitted from all anaerobic processes at the facility (metric tons).

n = Index for processes at the facility.

CH_4E_n = Annual mass of CH_4 emissions from process n (metric tons).

j = Total number of processes from which methane is emitted.

[75 FR 39767, July 12, 2010, as amended at 76 FR 73903, Nov. 29, 2011; 78 FR 71972, Nov. 29, 2013]

§ 98.354 Monitoring and QA/QC requirements.

(a) For calendar year 2011 monitoring, the facility may submit a request to the Administrator to use one or more best available monitoring methods as listed in § 98.3(d)(1)(i) through (iv). The request must be submitted no later than October 12, 2010 and must contain the information in § 98.3(d)(2)(ii). To obtain approval, the request must demonstrate to the Administrator's satisfaction that it is not reasonably feasible to acquire, install, and operate a required piece of monitoring equipment by January 1, 2011. The use of best available monitoring methods will not be approved beyond December 31, 2011.

(b) You must determine the concentration of organic material in wastewater treated anaerobically using analytical methods for COD or BOD_5 specified in 40 CFR 136.3 Table 1B. For the purpose of determining concentrations of wastewater influent to the anaerobic wastewater treatment process, samples may be diluted to the concentration range of the approved method, but the calculated concentration of the undiluted wastewater must be used for calculations and reporting required by this subpart.

(c) You must collect samples representing wastewater influent to the anaerobic wastewater treatment process, following all preliminary and primary treatment steps (*e.g.*, after grit removal, primary clarification, oil-water separation, dissolved air flotation, or similar solids and oil separation processes). You must collect and analyze samples for COD or BOD_5 concentration at least once each calendar week that the anaerobic wastewater treatment process is operating; if only one measurement is made each calendar week, there must be at least three days between measurements. You must collect a sample that represents the average COD or BOD_5 concentration of the waste stream over a 24-hour sampling period. You must collect a minimum of four sample aliquots per 24-hour period and composite the aliquots for analysis. Collect a flow-proportional composite sample (either constant time interval between samples with sample volume proportional to stream flow, or constant sample volume with time interval between samples proportional to stream flow). Follow sampling procedures and techniques presented in Chapter 5, Sampling, of the ''NPDES Compliance Inspection Manual,'' (incorporated by reference, *see* § 98.7) or Section 7.1.3, Sample Collection Methods, of the ''U.S. EPA NPDES Permit Writers' Manual,'' (incorporated by reference, *see* § 98.7).

(d) You must measure the flowrate of wastewater entering anaerobic wastewater treatment process at least once each calendar week that the process is operating; if only one measurement is made each calendar week, there must be at least three days between measurements. You must measure the flowrate for the 24-hour period for which you collect samples analyzed for COD or BOD_5 concentration. The flow measurement location must correspond to the location used to collect samples analyzed for COD or BOD_5 concentration. You must measure the flowrate using one of the methods specified in paragraphs (d)(1) through (d)(5) of this section or as specified by the manufacturer.

(1) ASME MFC–3M–2004 Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi (incorporated by reference, *see* § 98.7).

(2) ASME MFC–5M–1985 (Reaffirmed 1994) Measurement of Liquid Flow in Closed Conduits Using Transit-Time Ultrasonic Flowmeters (incorporated by reference, *see* § 98.7).

(3) ASME MFC–16–2007 Measurement of Liquid Flow in Closed Conduits with Electromagnetic Flowmeters (incorporated by reference, *see* § 98.7).

(4) ASTM D1941–91 (Reapproved 2007) Standard Test Method for Open Channel Flow Measurement of Water with the Parshall Flume, approved June 15, 2007, (incorporated by reference, *see* § 98.7).

(5) ASTM D5614–94 (Reapproved 2008) Standard Test Method for Open Channel Flow Measurement of Water with Broad-Crested Weirs, approved October

1, 2008, (incorporated by reference, *see* § 98.7).

(e) All wastewater flow measurement devices must be calibrated prior to the first year of reporting and recalibrated either biennially (every 2 years) or at the minimum frequency specified by the manufacturer. Wastewater flow measurement devices must be calibrated using the procedures specified by the device manufacturer.

(f) For each anaerobic process (such as anaerobic reactor, sludge digester, or lagoon) from which biogas is recovered, you must make the measurements or determinations specified in paragraphs (f)(1) through (f)(3) of this section.

(1) You must continuously measure the biogas flow rate as specified in paragraph (h) of this section and determine the cumulative volume of biogas recovered.

(2) You must determine the CH_4 concentration of the recovered biogas as specified in paragraph (g) of this section at a location near or representative of the location of the gas flow meter. You must determine CH_4 concentration either continuously or intermittently. If you determine the concentration intermittently, you must determine the concentration at least once each calendar week that the cumulative biogas flow measured as specified in paragraph (h) of this section is greater than zero, with at least three days between measurements.

(3) As specified in § 98.353(c) and paragraph (h) of this section, you must determine temperature, pressure, and moisture content as necessary to accurately determine the biogas flow rate and CH_4 concentration. You must determine temperature and pressure if the gas flow meter or gas composition monitor do not automatically correct for temperature or pressure. You must measure moisture content of the recovered biogas if the biogas flow rate is measured on a wet basis and the CH_4 concentration is measured on a dry basis. You must also measure the moisture content of the recovered biogas if the biogas flow rate is measured on a dry basis and the CH_4 concentration is measured on a wet basis.

(g) For each anaerobic process (such as an anaerobic reactor, sludge digester, or lagoon) from which biogas is recovered, operate, maintain, and calibrate a gas composition monitor capable of measuring the concentration of CH_4 in the recovered biogas using one of the methods specified in paragraphs (g)(1) through (g)(6) of this section or as specified by the manufacturer.

(1) Method 18 at 40 CFR part 60, appendix A–6.

(2) ASTM D1945–03, Standard Test Method for Analysis of Natural Gas by Gas Chromatography (incorporated by reference, *see* § 98.7).

(3) ASTM D1946–90 (Reapproved 2006), Standard Practice for Analysis of Reformed Gas by Gas Chromatography (incorporated by reference, *see* § 98.7).

(4) GPA Standard 2261–00, Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography (incorporated by reference, *see* § 98.7).

(5) ASTM UOP539–97 Refinery Gas Analysis by Gas Chromatography (incorporated by reference, *see* § 98.7).

(6) As an alternative to the gas chromatography methods provided in paragraphs (g)(1) through (g)(5) of this section, you may use total gaseous organic concentration analyzers and calculate the CH_4 concentration following the requirements in paragraphs (g)(6)(i) through (g)(6)(iii) of this section.

(i) Use Method 25A or 25B at 40 CFR part 60, appendix A–7 to determine total gaseous organic concentration. You must calibrate the instrument with CH_4 and determine the total gaseous organic concentration as carbon (or as CH_4; K=1 in Equation 25A–1 of Method 25A at 40 CFR part 60, appendix A–7).

(ii) Determine a non-methane organic carbon correction factor at the routine sampling location no less frequently than once a reporting year following the requirements in paragraphs (g)(6)(ii)(A) through (g)(6)(ii)(C) of this section.

(A) Take a minimum of three grab samples of the biogas with a minimum of 20 minutes between samples and determine the methane composition of the biogas using one of the methods specified in paragraphs (g)(1) through (g)(5) of this section.

(B) As soon as practical after each grab sample is collected and prior to the collection of a subsequent grab

sample, determine the total gaseous organic concentration of the biogas using either Method 25A or 25B at 40 CFR part 60, appendix A–7 as specified in paragraph (g)(6)(i) of this section.

(C) Determine the arithmetic average methane concentration and the arithmetic average total gaseous organic concentration of the samples analyzed according to paragraphs (g)(6)(ii)(A) and (g)(6)(ii)(B) of this section, respectively, and calculate the non-methane organic carbon correction factor as the ratio of the average methane concentration to the average total gaseous organic concentration. If the ratio exceeds 1, use 1 for the non-methane organic carbon correction factor.

(iii) Calculate the CH_4 concentration as specified in Equation II–8 of this section.

$$C_{CH4} = f_{NMOC} \times C_{TGOC} \qquad \text{(Eq. II-8)}$$

Where:

C_{CH_4} = Methane (CH_4) concentration in the biogas (volume %) for use in Equation II–4 of this subpart.

f_{NMOC} = Non-methane organic carbon correction factor from the most recent determination of the non-methane organic carbon correction factor as specified in paragraph (g)(6)(ii) of this section (unitless).

C_{TGOC} = Total gaseous organic carbon concentration measured using Method 25A or 25B at 40 CFR part 60, appendix A–7 during routine monitoring of the biogas (volume %).

(h) For each anaerobic process (such as an anaerobic reactor, sludge digester, or lagoon) from which biogas is recovered, install, operate, maintain, and calibrate a gas flow meter capable of continuously measuring the volumetric flow rate of the recovered biogas using one of the methods specified in paragraphs (h)(1) through (h)(8) of this section or as specified by the manufacturer. Recalibrate each gas flow meter either biennially (every 2 years) or at the minimum frequency specified by the manufacturer. Except as provided in § 98.353(c)(2)(iii), each gas flow meter must be capable of correcting for the temperature and pressure and, if necessary, moisture content.

(1) ASME MFC–3M–2004, Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi (incorporated by reference, *see* § 98.7).

(2) ASME MFC–4M–1986 (Reaffirmed 1997), Measurement of Gas Flow by Turbine Meters (incorporated by reference, *see* § 98.7).

(3) ASME MFC–6M–1998, Measurement of Fluid Flow in Pipes Using Vortex Flowmeters (incorporated by reference, *see* § 98.7).

(4) ASME MFC–7M–1987 (Reaffirmed 1992), Measurement of Gas Flow by Means of Critical Flow Venturi Nozzles (incorporated by reference, *see* § 98.7).

(5) ASME MFC–11M–2006 Measurement of Fluid Flow by Means of Coriolis Mass Flowmeters (incorporated by reference, see § 98.7). The mass flow must be corrected to volumetric flow based on the measured temperature, pressure, and biogas composition.

(6) ASME MFC–14M–2003 Measurement of Fluid Flow Using Small Bore Precision Orifice Meters (incorporated by reference, *see* § 98.7).

(7) ASME MFC–18M–2001 Measurement of Fluid Flow using Variable Area Meters (incorporated by reference, *see* § 98.7).

(8) Method 2A or 2D at 40 CFR part 60, appendix A–1.

(i) All temperature, pressure, and, moisture content monitors required as specified in paragraph (f) of this section must be calibrated using the procedures and frequencies where specified by the device manufacturer, if not specified use an industry accepted or industry standard practice.

(j) All equipment (temperature, pressure, and moisture content monitors and gas flow meters and gas composition monitors) must be maintained as specified by the manufacturer.

(k) If applicable, the owner or operator must document the procedures used to ensure the accuracy of measurements of COD or BOD_5 concentration, wastewater flow rate, biogas flow rate, biogas composition, temperature, pressure, and moisture content. These procedures include, but are not limited to, calibration of gas flow meters, and other measurement devices. The estimated accuracy of measurements made

with these devices must also be recorded, and the technical basis for these estimates must be documented.

[75 FR 39767, July 12, 2010, as amended at 76 FR 73904, Nov. 29, 2011]

§ 98.355 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable (*e.g.*, if a meter malfunctions during unit operation or if a required sample is not taken), a substitute data value for the missing parameter must be used in the calculations, according to the following requirements in paragraphs (a) through (c) of this section:

(a) For each missing weekly value of COD or BOD_5 or wastewater flow entering an anaerobic wastewater treatment process, the substitute data value must be the arithmetic average of the quality-assured values of those parameters for the week immediately preceding and the week immediately following the missing data incident.

(b) For each missing value of the CH_4 content or biogas flow rates, the substitute data value must be the arithmetic average of the quality-assured values of that parameter immediately preceding and immediately following the missing data incident.

(c) If, for a particular parameter, no quality-assured data are available prior to the missing data incident, the substitute data value must be the first quality-assured value obtained after the missing data period. If, for a particular parameter, the ''after'' value is not obtained by the end of the reporting year, you may use the last quality-assured value obtained ''before'' the missing data period for the missing data substitution. You must document and keep records of the procedures you use for all such estimates.

[75 FR 39767, July 12, 2010, as amended at 76 FR 73905, Nov. 29, 2011]

§ 98.356 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the following information for each wastewater treatment system.

(a) A description or diagram of the industrial wastewater treatment system, identifying the processes used to treat industrial wastewater and industrial wastewater treatment sludge. Indicate how the processes are related to each other and identify the anaerobic processes. Provide a unique identifier for each anaerobic process, indicate the average depth in meters of each anaerobic lagoon, and indicate whether biogas generated by each anaerobic process is recovered. The anaerobic processes must be identified as:

(1) Anaerobic reactor.

(2) Anaerobic deep lagoon (depth more than 2 meters).

(3) Anaerobic shallow lagoon (depth less than 2 meters).

(4) Anaerobic sludge digester.

(b) For each anaerobic wastewater treatment process (reactor, deep lagoon, or shallow lagoon) you must report:

(1) Weekly average COD or BOD_5 concentration of wastewater entering each anaerobic wastewater treatment process, for each week the anaerobic process was operated.

(2) Volume of wastewater entering each anaerobic wastewater treatment process for each week the anaerobic process was operated.

(3) Maximum CH_4 production potential (B_0) used as an input to Equation II–1 or II–2 of this subpart, from Table II–1 to this subpart.

(4) Methane conversion factor (MCF) used as an input to Equation II–1 or II–2 of this subpart, from Table II–1 to this subpart.

(5) Annual mass of CH_4 generated by each anaerobic wastewater treatment process, calculated using Equation II–1 or II–2 of this subpart.

(c) For each anaerobic wastewater treatment process from which biogas is not recovered, you must report the annual CH_4 emissions, calculated using Equation II–3 of this subpart.

(d) For each anaerobic wastewater treatment process and anaerobic sludge digester from which some biogas is recovered, you must report:

(1) Annual quantity of CH_4 recovered from the anaerobic process calculated using Equation II–4 of this subpart.

(2) Total weekly volumetric biogas flow for each week (up to 52 weeks/year) that biogas is collected for destruction.

(3) Weekly average CH_4 concentration for each week that biogas is collected for destruction.

(4) Weekly average biogas temperature for each week at which flow is measured for biogas collected for destruction, or statement that temperature is incorporated into monitoring equipment internal calculations.

(5) Whether flow was measured on a wet or dry basis, whether CH_4 concentration was measured on a wet or dry basis, and if required for Equation II–4 of this subpart, weekly average moisture content for each week at which flow is measured for biogas collected for destruction, or statement that moisture content is incorporated into monitoring equipment internal calculations.

(6) Weekly average biogas pressure for each week at which flow is measured for biogas collected for destruction, or statement that pressure is incorporated into monitoring equipment internal calculations.

(7) CH_4 collection efficiency (CE) used in Equation II–5 of this subpart.

(8) Whether destruction occurs at the facility or off-site. If destruction occurs at the facility, also report whether a back-up destruction device is present at the facility, the annual operating hours for the primary destruction device, the annual operating hours for the back-up destruction device (if present), the destruction efficiency for the primary destruction device, and the destruction efficiency for the back-up destruction device (if present).

(9) For each anaerobic process from which some biogas is recovered, you must report the annual CH_4 emissions, as calculated by Equation II–6 of this subpart.

(e) The total mass of CH_4 emitted from all anaerobic processes from which biogas is not recovered (calculated in Equation II–3 of this subpart) and from all anaerobic processes from which some biogas is recovered (calculated in Equation II–6 of this subpart) using Equation II–7 of this subpart.

[75 FR 39767, July 12, 2010, as amended at 76 FR 73905, Nov. 29, 2011]

§ 98.357 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain the calibration records for all monitoring equipment, including the method or manufacturer's specification used for calibration.

§ 98.358 Definitions.

Except as provided below, all terms used in this subpart have the same meaning given in the CAA and subpart A of this part.

Biogas means the combination of CO_2, CH_4, and other gases produced by the biological breakdown of organic matter in the absence of oxygen.

Ethanol production means an operation that produces ethanol from the fermentation of sugar, starch, grain, or cellulosic biomass feedstocks, or the production of ethanol synthetically from petrochemical feedstocks, such as ethylene or other chemicals.

Food processing means an operation used to manufacture or process meat, poultry, fruits, and/or vegetables as defined under NAICS 3116 (Meat Product Manufacturing) or NAICS 3114 (Fruit and Vegetable Preserving and Specialty Food Manufacturing). For information on NAICS codes, *see http://www.census.gov/eos/www/naics/*.

Industrial wastewater means water containing wastes from an industrial process. Industrial wastewater includes water which comes into direct contact with or results from the storage, production, or use of any raw material, intermediate product, finished product, by-product, or waste product. Examples of industrial wastewater include, but are not limited to, paper mill white water, wastewater from equipment cleaning, wastewater from air pollution control devices, rinse water, contaminated stormwater, and contaminated cooling water.

Industrial wastewater treatment sludge means solid or semi-solid material resulting from the treatment of industrial wastewater, including but not

limited to biosolids, screenings, grit, scum, and settled solids.

Wastewater treatment system means the collection of all processes that treat or remove pollutants and contaminants, such as soluble organic matter, suspended solids, pathogenic organisms, and chemicals from wastewater prior to its reuse or discharge from the facility.

TABLE II–1 TO SUBPART II OF PART 98—EMISSION FACTORS

Factors	Default value	Units
B_0—for facilities monitoring COD	0.25	Kg CH_4/kg COD
B_0—for facilities monitoring BOD_5	0.60	Kg CH_4/kg BOD_5
MCF—anaerobic reactor	0.8	Fraction.
MCF—anaerobic deep lagoon (depth more than 2 m)	0.8	Fraction.
MCF—anaerobic shallow lagoon (depth less than 2 m)	0.2	Fraction.

TABLE II–2 TO SUBPART II—COLLECTION EFFICIENCIES OF ANAEROBIC PROCESSES

Anaerobic process type	Cover type	Methane collection efficiency
Covered anaerobic lagoon (biogas capture)	Bank to bank, impermeable	0.975
	Modular, impermeable	0.70
Anaerobic sludge digester; anaerobic reactor	Enclosed Vessel	0.99

Subpart JJ—Manure Management

§ 98.360 Definition of the source category.

(a) This source category consists of livestock facilities with manure management systems that emit 25,000 metric tons CO_2e or more per year.

(1) Table JJ–1 presents the minimum average annual animal population by animal group that is estimated to emit 25,000 metric tons CO_2e or more per year. Facilities with an average annual animal population, as described in § 98.363(a)(1) and (2), below those listed in Table JJ–1 do not need to report under this rule. A facility with an annual animal population that exceeds those listed in Table JJ–1 should conduct a more thorough analysis to determine applicability.

(2) (i) If a facility has more than one animal group present (e.g., swine and poultry), the facility must determine if they are required to report by calculating the combined animal group factor (CAGF) using equation JJ–1:

$$CAGF = \sum_{\text{Animal Groups}} \left(\frac{AAAP_{AG,\,Facility}}{APTL_{AG}} \right) \qquad \text{(Eq. JJ-1)}$$

Where:

CAGF = Combined Animal Group Factor

$AAAP_{AG,Facility}$ = Average annual animal population at the facility, by animal group

$APTL_{AG}$ = Animal population threshold level, as specified in Table JJ–1 of this section

(ii) If the calculated CAGF for a facility is less than 1, the facility is not required to report under this rule. If the CAGF is equal to or greater than 1, the facility must use more detailed applicability tables and tools to determine if they are required to report under this rule.

(b) A manure management system (MMS) is a system that stabilizes and/or stores livestock manure, litter, or manure wastewater in one or more of the following system components: Uncovered anaerobic lagoons, liquid/slurry systems with and without crust covers (including but not limited to ponds and tanks), storage pits, digesters,

solid manure storage, dry lots (including feedlots), high-rise houses for poultry production (poultry without litter), poultry production with litter, deep bedding systems for cattle and swine, manure composting, and aerobic treatment.

(c) This source category does not include system components at a livestock facility that are unrelated to the stabilization and/or storage of manure such as daily spread or pasture/range/paddock systems or land application activities or any method of manure utilization that is not listed in § 98.360(b).

(d) This source category does not include manure management activities located off site from a livestock facility or off-site manure composting operations.

§ 98.361 Reporting threshold.

Livestock facilities must report GHG emissions under this subpart if the facility meets the reporting threshold as defined in 98.360(a) above, contains a manure management system as defined in 98.360(b) above, and meets the requirements of § 98.2(a)(1).

§ 98.362 GHGs to report.

(a) Livestock facilities must report annual aggregate CH_4 and N_2O emissions for the following MMS components at the facility:

(1) Uncovered anaerobic lagoons.

(2) Liquid/slurry systems (with and without crust covers, and including but not limited to ponds and tanks).

(3) Storage pits.

(4) Digesters, including covered anaerobic lagoons.

(5) Solid manure storage.

(6) Dry lots, including feedlots.

(7) High-rise houses for poultry production (poultry without litter)

(8) Poultry production with litter.

(9) Deep bedding systems for cattle and swine.

(10) Manure composting.

(11) Aerobic treatment.

(b) A livestock facility that is subject to this rule only because of emissions from manure management system components is not required to report emissions from subparts C through PP (other than subpart JJ) of this part.

(c) A livestock facility that is subject to this part because of emissions from source categories described in subparts C through PP of this part is not required to report emissions under subpart JJ of this part unless emissions from manure management systems are 25,000 metric tons CO_2e per year or more.

§ 98.363 Calculating GHG emissions.

(a) For all manure management system components listed in 98.360(b) except digesters, estimate the annual CH_4 emissions and sum for all the components to obtain total emissions from the manure management system for all animal types using Equation JJ–1.

$$CH_4\ \text{Emissions}_{MMS}\ (\text{metric tons/yr}) = \sum_{\text{animal types}} \left[\sum_{MMSC} \left[\left(TVS_{AT} \times VS_{MMSC} \times \left(1 - VS_{ss}\right) \times 365\ \text{days/yr} \times \left(B_0\right)_{AT} \times MCF_{MMSC} \right) \times 0.662\ \text{kg}\ CH_4/\text{m}^3 \times 1\ \text{metric ton}/1000\ \text{kg} \right] \right] \quad \text{(Eq. JJ-2)}$$

Where:

MMSC = Manure management systems component.

TVS_{AT} = Total volatile solids excreted by animal type, calculated using Equation JJ–3 of this section (kg/day).

VS_{MMSC} = Fraction of the total manure for each animal type that is managed in MMS component MMSC, assumed to be equivalent to the fraction of VS in each MMS component.

VS_{ss} = Volatile solids removal through solid separation; if solid separation occurs prior to the MMS component, use a default value from Table JJ–4 of this section; if no solid separation occurs, this value is set to 0.

$(B_0)_{AT}$ = Maximum CH_4-producing capacity for each animal type, as specified in Table JJ–2 of this section (m^3 CH_4/kg VS).

MCF_{MMSC} = CH_4 conversion factor for the MMS component, as specified in Table JJ–5 of this section (decimal).

$$TVS_{AT} = Population_{AT} \times TAM_{AT} \times VS_{AT}/1000 \qquad \text{(Eq. JJ-3)}$$

Where:

TVS_{AT} = Daily total volatile solids excreted per animal type (kg/day).

$Population_{AT}$ = Average annual animal population contributing manure to the manure management system by animal type (head) (see description in § 98.363(a)(i) and (ii) below).

TAM_{AT} = Typical animal mass for each animal type, using either default values in Table JJ–2 of this section or farm-specific data (kg/head).

VS_{AT} = Volatile solids excretion rate for each animal type, using default values in Table JJ–2 or JJ–3 of this section (kg VS/day/1000 kg animal mass).

(1) Average annual animal populations for static populations (e.g., dairy cows, breeding swine, layers) must be estimated by performing an animal inventory or review of facility records once each reporting year.

(2) Average annual animal populations for growing populations (meat animals such as beef and veal cattle, market swine, broilers, and turkeys) must be estimated each year using the average number of days each animal is kept at the facility and the number of animals produced annually, and an equation similar or equal to Equation JJ–4 below, adapted from Equation 10.1 in *2006 IPCC Guidelines for National Greenhouse Gas Inventories,* Volume 4, Chapter 10.

$$Population_{AT} = Days\ onsite_{AT} \times \left(\frac{NAPA_{AT}}{365}\right) \qquad \text{(Eq. JJ-4)}$$

Where:

$Population_{AT}$ = Average annual animal population (by animal type).

$Days\ onsite_{AT}$ = Average number of days the animal is kept at the facility, by animal type.

$NAPA_{AT}$ = Number of animals produced annually, by animal type.

(b) For each digester, calculate the total amount of CH_4 emissions, and then sum the emissions from all digesters, as shown in Equation JJ–5 of this section.

$$H_4\ Emissions_{AD} = \sum_{1}^{AD}\left(CH_4C - CH_4D + CH_4L\right) \qquad \text{(Eq. JJ-5)}$$

Where:

$CH_4\ Emissions_{AD}$ = CH_4 emissions from anaerobic digestion (metric tons/yr).

AD = Number of anaerobic digesters at the manure management facility.

CH_4C = CH_4 flow to digester combustion device, calculated using Equation JJ–6 of this section (metric tons CH_4/yr).

CH_4D = CH_4 destruction at digesters, calculated using Equation JJ–11 of this section (metric tons CH_4/yr)

CH_4L = Leakage at digesters calculated using Equation JJ–12 of this section (metric tons CH_4/yr).

(1) For each digester, calculate the annual CH_4 flow to the combustion device (CH_4C) using Equation JJ–6 of this section. A fully integrated system that directly reports the quantity of CH_4 flow to the digester combustion device requires only summing the results of all monitoring periods for a given year to obtain CH_4C.

$$CH_4C = \left(V \times \frac{C}{100\%} \times 0.0423 \times \frac{520^{o}R}{T} \times \frac{P}{1\ atm} \times \frac{0.454\ metric\ ton}{1{,}000\ pounds} \right) \qquad \text{(Eq. JJ-6)}$$

Where:

CH_4C = CH_4 flow to digester combustion device (metric tons CH_4/yr).

V = Average annual volumetric flow rate, calculated in Equation JJ–7 of this subsection (cubic feet CH_4/yr).

C = Average annual CH_4 concentration of digester gas, calculated in Equation JJ–8 of this section (%, wet basis).

0.0423 = Density of CH_4 lb/scf (at 520 °R or 60 °F and 1 atm).

T = Average annual temperature at which flow is measured, calculated in Equation JJ–9 of this section (°R).

P = Average annual pressure at which flow is measured, calculated in Equation JJ–10 of this section (atm).

(2) For each digester, calculate the average annual volumetric flow rate, CH_4 concentration of digester gas, temperature, and pressure at which flow are measured using Equations JJ–7 through JJ–10 of this section.

$$V = \frac{\sum_{n=1}^{OD} \left(V_n \times \frac{1{,}440\ minutes}{day} \right)}{OD} \qquad \text{(Eq. JJ-7)}$$

Where:

V = Average annual volumetric flow rate (cubic feet CH_4/yr).

OD = Operating days, number of days per year that that the digester was operating (days/yr).

V_n = Daily average volumetric flow rate for day n, as determined from daily monitoring as specified in § 98.364 (acfm).

$$C = \frac{\sum_{n=1}^{OD} C_n}{OD} \qquad \text{(Eq. JJ-8)}$$

Where:

C = Average annual CH_4 concentration of digester gas (%, wet basis).

OD = Operating days, number of days per year that the digester was operating (days/yr).

C_n = Average daily CH_4 concentration of digester gas for day n, as determined from daily monitoring as specified in § 98.364 (%, wet basis).

$$T = \frac{\sum_{n=1}^{OD} T_n}{OD} \qquad \text{(Eq. JJ-9)}$$

Where:

T = Average annual temperature at which flow is measured (°R).

OD = Operating days, number of days per year that the digester was operating (days/yr).

T_n = Temperature at which flow is measured for day n(°R).

$$P = \frac{\sum_{n=1}^{OD} P_n}{OD} \qquad \text{(Eq. JJ-10)}$$

Where:

P = Average annual pressure at which flow is measured (atm).

OD = Operating days, number of days per year that the digester was operating (days/yr).

P_n = Pressure at which flow is measured for day n (atm).

(3) For each digester, calculate the CH_4 destruction at the digester combustion device using Equation JJ–11 of this section.

$$CH_4D = CH_4C \times DE \times OH/Hours \qquad \text{(Eq. JJ-11)}$$

Where:

CH_4D = CH_4 destruction at digester combustion device (metric tons/yr).

CH_4C = Annual quantity of CH_4 flow to digester combustion device, as calculated in Equation JJ–6 of this section (metric tons CH_4).

DE = CH_4 destruction efficiency from flaring or burning in engine (lesser of manufacturer's specified destruction efficiency and 0.99). If the gas is transported off-site for destruction, use DE = 1.

OH = Number of hours combustion device is functioning in reporting year.

Hours = Hours in reporting year.

(4) For each digester, calculate the CH_4 leakage using Equation JJ–12 of this section.

$$CH_4L = CH_4C \times \left(\frac{1}{CE} - 1\right) \qquad \text{(Eq. JJ-12)}$$

Where:

CH_4L = Leakage at digesters (metric tons/yr).

CH_4C = Annual quantity of CH_4 flow to digester combustion device, as calculated in Equation JJ–6 of this section (metric tons CH_4).

CE = CH_4 collection efficiency of anaerobic digester, as specified in Table JJ–6 of this section (decimal).

(c) For each MMS component, estimate the annual N_2O emissions and sum for all MMS components to obtain total emissions from the manure management system for all animal types using Equation JJ–13 of this section.

$$\text{Direct } N_2O \text{ Emissions (metric tons/year)} = \sum_{\text{animal types}} \left[\sum_{MMSC} N_{ex\ AT} \times N_{ex,MMSC} \times (1 - N_{ss}) \times EF_{MMSC} \times 365 \text{ days/yr}\right] \times 44\ N_2O/28\ N_2O-N \times 1 \text{ metric ton}/1000 \text{ kg}\Big] \qquad \text{(Eq. JJ-13)}$$

Where:

$N_{ex\ AT}$ = Daily total nitrogen excreted per animal type, calculated using Equation JJ–14 of this section (kg N/day).

$N_{ex,MMSC}$ = Fraction of the total manure for each animal type that is managed in MMS component MMSC, assumed to be equivalent to the fraction of N_{ex} in each MMS component.

N_{ss} = Nitrogen removal through solid separation; if solid separation occurs prior to the MMS component, use a default value from Table JJ–4 of this section; if no solid separation occurs, this value is set to 0.

EF_{MMSC} = Emission factor for MMS component, as specified in Table JJ–7 of this section (kg N_2O-N/kg N).

$$N_{ex\ AT} = Population_{AT} \times TAM_{AT} \times N_{AT}/1000 \qquad \text{(Eq. JJ-14)}$$

Where:

$N_{ex\ AT}$ = Total nitrogen excreted per animal type (kg/day).

$Population_{AT}$ = Average annual animal population contributing manure to the manure management system by animal type (head) (see description in § 98.363(a)(i) and (ii)).

TAM_{AT} = Typical animal mass by animal type, using either default values in Table JJ–2 of this section or farm-specific data (kg/head).

N_{AT} = Nitrogen excretion rate by animal type, using default values in Tables JJ–2 or JJ–3 of this section (kg N/day/1000 kg animal mass).

(d) Estimate the annual total facility emissions using Equation JJ–15 of this section.

$$\text{Total Emissions (metric tons } CO_2\text{e/yr)} = \left[(CH_4 emissions_{MMS} + CH_4 emissions_{AD}) \times 21\right] + [\text{Direct } N_2O \text{ emissions} \times 310] \quad \text{(Eq.JJ-15)}$$

Where:

CH_4 emissions$_{MMS}$ = From Equation JJ–2 of this section.

CH_4 emissions$_{AD}$ = From Equation JJ–5 of this section.

21 = Global Warming Potential of CH_4.

Direct N_2O emissions = From Equation JJ–13 of this section.

310 = Global Warming Potential of N_2O.

§ 98.364 Monitoring and QA/QC requirements.

(a) Perform an annual animal inventory or review of facility records (for static populations) or population calculation (for growing populations) to determine the average annual animal population for each animal type (see description in § 98.363(a)(1) and (2)).

(b) Perform an analysis on your operation to determine the fraction of total manure by weight for each animal type that is managed in each on-site manure management system component. If your system changes from previous reporting periods, you must reevaluate the fraction of total manure managed in each system component.

(c) The CH_4 concentration of gas from digesters must be determined using ASTM D1946–90 (Reapproved 2006) Standard Practice for Analysis of Reformed Gas by Gas Chromatography (incorporated by reference *see* § 98.7). All gas composition monitors shall be calibrated prior to the first reporting year for biogas methane and carbon dioxide content using ASTM D1946–90 (Reapproved 2006) Standard Practice for Analysis of Reformed Gas by Gas Chromatography (incorporated by reference *see* § 98.7)and recalibrated either annually or at the minimum frequency specified by the manufacturer, whichever is more frequent, or whenever the error in the midrange calibration check exceeds ±10 percent. All monitors shall be maintained as specified by the manufacturer.

(d) All temperature and pressure monitors must be calibrated using the procedures and frequencies specified by the manufacturer. All equipment (temperature and pressure monitors) shall be maintained as specified by the manufacturer.

(e) For digesters with gas collection systems, install, operate, maintain, and calibrate a gas flow meter capable of measuring the volumetric flow rate to provide data for the GHG emissions calculations, using the applicable methods specified in paragraphs (e)(1) through (e)(6) of this section or as specified by the manufacturer.

(1) ASME MFC–3M–2004 Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi (incorporated by reference, *see* § 98.7).

(2) ASME MFC–4M–1986 (Reaffirmed 1997) Measurement of Gas Flow by Turbine Meters (incorporated by reference, *see* § 98.7).

(3) ASME MFC–6M–1998 Measurement of Fluid Flow in Pipes Using Vortex Flowmeters (incorporated by reference, *see* § 98.7).

(4) ASME MFC–7M–1987 (Reaffirmed 1992) Measurement of Gas Flow by Means of Critical Flow Venturi Nozzles (incorporated by reference, *see* § 98.7).

(5) ASME MFC–14M–2003 Measurement of Fluid Flow Using Small Bore Precision Orifice Meters (incorporated by reference, *see* § 98.7).

(6) ASME MFC–18M–2001 Measurement of Fluid Flow using Variable Area Meters (incorporated by reference, *see* § 98.7).

(f) If applicable, the owner or operator shall document the procedures used to ensure the accuracy of gas flow rate, gas composition, temperature, and pressure measurements. These procedures include, but are not limited to, calibration of fuel flow meters and other measurement devices. The estimated accuracy of measurements made with these devices shall also be recorded, and the technical basis for these estimates shall be provided.

(g) Each gas flow meter shall be calibrated prior to the first reporting year and recalibrated either annually or at the minimum frequency specified by the manufacturer, whichever is more frequent. Each gas flow meter must have a rated accuracy of ±5 percent or lower and be capable of correcting for the temperature and pressure and, if the gas composition monitor determines CH_4 concentration on a dry basis, moisture content.

§ 98.365 Procedures for estimating missing data.

(a) A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable (e.g., if a meter malfunctions during unit operation or if a required fuel sample is not taken), a substitute data value for the missing parameter shall be used in the calculations, according to the requirements in paragraph (b) of this section.

(b) For missing gas flow rates or CH_4 content data, the substitute data value shall be the arithmetic average of the quality-assured values of that parameter immediately preceding and immediately following the missing data incident. If, for a particular parameter, no quality-assured data are available prior to the missing data incident, the substitute data value shall be the first quality-assured value obtained after the missing data period.

§ 98.366 Data reporting requirements.

(a) In addition to the information required by § 98.3(c), each annual report must contain the following information:

(1) List of manure management system components at the facility.

(2) Fraction of manure from each animal type that is handled in each manure management system component.

(3) Average annual animal population (for each animal type) for static populations or the results of Equation JJ–4 for growing populations.

(4) Average number of days that growing animals are kept at the facility (for each animal type).

(5) The number of animals produced annually for growing populations (for each animal type).

(6) Typical animal mass (for each animal type).

(7) Total facility emissions (results of Equation JJ–15).

(8) CH_4 emissions from manure management system components listed in § 98.360(b), except digesters (results of Equation JJ–2).

(9) VS value used (for each animal type).

(10) B_0 value used (for each animal type).

(11) Methane conversion factor used for each MMS component.

(12) Average ambient temperature used to select each methane conversion factor.

(13) N_2O emissions (results of Equation JJ–13).

(14) N value used for each animal type.

(15) N_2O emission factor selected for each MMS component.

(b) Facilities with anaerobic digesters must also report:

(1) CH_4 emissions from anaerobic digesters (results of Equation JJ–5).

(2) CH_4 flow to the digester combustion device for each digester (results of Equation JJ–6, or value from fully integrated monitoring system as described in 98.363(b)).

(3) CH_4 destruction for each digester (results of Equation JJ–11).

(4) CH_4 leakage for each digester (results of Equation JJ–12).

(5) Total annual volumetric biogas flow for each digester (results of Equation JJ–7).

(6) Average annual CH_4 concentration for each digester (results of Equation JJ–8).

(7) Average annual temperature at which gas flow is measured for each digester (results of Equation JJ–9).

(8) Average annual gas flow pressure at which gas flow is measured for each digester (results of Equation JJ–10).

(9) Destruction efficiency used for each digester.

(10) Number of days per year that each digester was operating.

(11) Collection efficiency used for each digester.

§ 98.367 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain the calibration records for all monitoring equipment, including the method or manufacturer's specification used for calibration.

§ 98.368 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE JJ–1 TO SUBPART JJ OF PART 98—ANIMAL POPULATION THRESHOLD LEVEL BELOW WHICH FACILITIES ARE NOT REQUIRED TO REPORT EMISSIONS UNDER SUBPART JJ [1] [2]

Animal group	Average annual animal population (Head) [3]
Beef	29,300
Dairy	3,200
Swine	34,100
Poultry:	
Layers	723,600
Broilers	38,160,000
Turkeys	7,710,000

[1] The threshold head populations in this table were calculated using the most conservative assumptions (high VS and N values, maximum ambient temperatures, and the application of an uncertainty factor) to ensure that facilities at or near the 25,000 metric ton CO_2e threshold level were not excluded from reporting.

[2] For facilities with more than one animal group present refer to § 98.360 (2) to estimate the combined animal group factor (CAGF), which is used to determine if a facility may be required to report.

[3] For all animal groups except dairy, the average annual animal population represents the total number of animals present at the facility. For dairy facilities, the average annual animal population represents the number of mature dairy cows present at the facility (note that heifers and calves were included in the emission estimates for dairy facilities using the assumption that the average annual animal population of heifers and calves at dairy facilities are equal to 30 percent of the mature dairy cow average annual animal population, therefore the average annual population for dairy facilities should not include heifers and calves, only dairy cows).

TABLE JJ–2 TO SUBPART JJ OF PART 98—WASTE CHARACTERISTICS DATA

Animal type	Typical animal mass (kg)	Volatile solids excretion rate (kg VS/day/1000 kg animal mass)	Nitrogen excretion rate (kg N/day/1000 kg animal mass)	Maximum methane generation potential, B_o (m^3 CH_4/kg VS added)
Dairy Cows	604	See Table JJ–3	See Table JJ–3	0.24
Dairy Heifers	476	See Table JJ–3	See Table JJ–3	0.17
Dairy Calves	118	6.41	0.30	0.17
Feedlot Steers	420	See Table JJ–3	See Table JJ–3	0.33
Feedlot heifers	420	See Table JJ–3	See Table JJ–3	0.33
Market Swine <60 lbs	16	8.80	0.60	0.48
Market Swine 60–119 lbs	41	5.40	0.42	0.48
Market Swine 120–179 lbs	68	5.40	0.42	0.48
Market Swine >180 lbs	91	5.40	0.42	0.48
Breeding Swine	198	2.60	0.24	0.48
Feedlot Sheep	25	9.20	0.42	0.36
Goats	64	9.50	0.45	0.17
Horses	450	10.00	0.30	0.33
Hens >/= 1 yr	1.8	10.09	0.83	0.39
Pullets	1.8	10.09	0.62	0.39
Other Chickens	1.8	10.80	0.83	0.39
Broilers	0.9	15.00	1.10	0.36
Turkeys	6.8	9.70	0.74	0.36

TABLE JJ–3 TO SUBPART JJ OF PART 98—STATE-SPECIFIC VOLATILE SOLIDS (VS) AND NITROGEN (N) EXCRETION RATES FOR CATTLE

State	Volatile solids excretion rate (kg VS/day/1000 kg animal mass)				Nitrogen excretion rate (kg VS/day/1000 kg animal mass)			
	Dairy cows	Dairy heifers	Feedlot steer	Feedlot heifers	Dairy cows	Dairy heifers	Feedlot steer	Feedlot heifers
Alabama	8.40	8.35	4.27	4.74	0.50	0.46	0.36	0.38
Alaska	7.30	8.35	4.15	4.58	0.45	0.46	0.35	0.37
Arizona	10.37	8.35	3.91	4.27	0.58	0.46	0.33	0.34
Arkansas	7.59	8.35	3.98	4.35	0.46	0.46	0.33	0.35
California	10.02	8.35	3.96	4.33	0.56	0.46	0.33	0.34
Colorado	10.25	8.35	3.97	4.34	0.58	0.46	0.33	0.35
Connecticut	9.22	8.35	4.41	4.93	0.53	0.46	0.37	0.40
Delaware	8.63	8.35	4.19	4.64	0.51	0.46	0.35	0.37
Florida	8.90	8.35	4.15	4.58	0.52	0.46	0.35	0.37
Georgia	9.07	8.35	4.18	4.63	0.53	0.46	0.35	0.37
Hawaii	7.00	8.35	4.15	4.58	0.44	0.46	0.35	0.37
Idaho	10.11	8.35	4.03	4.42	0.57	0.46	0.34	0.35
Illinois	9.07	8.35	4.15	4.59	0.52	0.46	0.35	0.37
Indiana	9.38	8.35	3.98	4.35	0.54	0.46	0.33	0.35
Iowa	9.46	8.35	3.93	4.28	0.54	0.46	0.33	0.34
Kansas	9.63	8.35	3.97	4.35	0.55	0.46	0.33	0.35
Kentucky	7.89	8.35	4.20	4.65	0.48	0.46	0.35	0.37
Louisiana	7.39	8.35	4.07	4.48	0.45	0.46	0.34	0.36
Maine	8.99	8.35	4.07	4.47	0.52	0.46	0.34	0.36
Maryland	9.02	8.35	4.05	4.45	0.52	0.46	0.34	0.35
Massachusetts	8.63	8.35	4.15	4.58	0.51	0.46	0.35	0.37
Michigan	10.05	8.35	4.00	4.38	0.57	0.46	0.34	0.35
Minnesota	9.17	8.35	3.89	4.24	0.53	0.46	0.33	0.34
Mississippi	8.19	8.35	4.14	4.57	0.49	0.46	0.35	0.37
Missouri	8.02	8.35	4.08	4.49	0.48	0.46	0.34	0.36
Montana	9.03	8.35	4.23	4.69	0.52	0.46	0.36	0.38
Nebraska	9.09	8.35	3.98	4.35	0.53	0.46	0.33	0.35
Nevada	9.65	8.35	4.07	4.48	0.55	0.46	0.34	0.36
New Hampshire	9.44	8.35	3.94	4.30	0.54	0.46	0.33	0.34
New Jersey	8.51	8.35	3.98	4.36	0.50	0.46	0.33	0.35
New Mexico	10.34	8.35	3.88	4.22	0.58	0.46	0.32	0.33
New York	9.42	8.35	3.75	4.05	0.54	0.46	0.31	0.32
North Carolina	9.38	8.35	4.20	4.65	0.55	0.46	0.35	0.37
North Dakota	8.40	8.35	3.88	4.22	0.50	0.46	0.32	0.34
Ohio	9.01	8.35	3.96	4.33	0.52	0.46	0.33	0.34
Oklahoma	8.58	8.35	3.98	4.35	0.50	0.46	0.33	0.35
Oregon	9.40	8.35	4.06	4.46	0.54	0.46	0.34	0.36
Pennsylvania	9.26	8.35	3.98	4.35	0.53	0.46	0.33	0.35
Rhode Island	8.94	8.35	4.36	4.87	0.52	0.46	0.37	0.39
South Carolina	9.05	8.35	4.15	4.58	0.53	0.46	0.35	0.37
South Dakota	9.45	8.35	4.01	4.39	0.54	0.46	0.34	0.35
Tennessee	8.60	8.35	4.48	5.02	0.51	0.46	0.38	0.40
Texas	9.51	8.35	3.95	4.32	0.54	0.46	0.33	0.34
Utah	9.70	8.35	3.88	4.22	0.55	0.46	0.32	0.34
Vermont	9.03	8.35	4.10	4.52	0.52	0.46	0.34	0.36
Virginia	9.02	8.35	3.98	4.35	0.53	0.46	0.33	0.35
Washington	10.36	8.35	4.07	4.47	0.58	0.46	0.34	0.36
West Virginia	8.13	8.35	4.65	5.25	0.48	0.46	0.40	0.42
Wisconsin	9.34	8.35	3.95	4.31	0.54	0.46	0.33	0.34
Wyoming	9.29	8.35	4.17	4.61	0.53	0.46	0.35	0.37

TABLE JJ–4 TO SUBPART JJ OF PART 98—VOLATILE SOLIDS AND NITROGEN REMOVAL THROUGH SOLIDS SEPARATION

Type of solids separation	Volatile solids removal (decimal)	Nitrogen removal (decimal)
Gravity	0.60	0.60
Mechanical:		
Stationary Screen	0.20	0.10
Vibrating Screen	0.15	0.15
Screw Press	0.25	0.15
Centrifuge	0.50	0.25
Roller drum	0.25	0.15
Belt press/screen	0.50	0.30

Table JJ-5 to Subpart JJ of Part 98—Methane Conversion Factors

Manure Management System Component	MCFs by Average Annual Ambient Temperature (degrees C)																		
	Cool					Temperate											Warm		
	<10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	>28
Uncovered Anaerobic Lagoon	66%	68%	70%	71%	73%	74%	75%	76%	77%	77%	78%	78%	78%	79%	79%	79%	79%	80%	80%
Liquid/slurry (with crust cover)	10%	11%	13%	14%	15%	17%	18%	20%	22%	24%	26%	29%	31%	34%	37%	41%	44%	48%	50%
Liquid/slurry	17%	19%	20%	22%	25%	27%	29%	32%	35%	39%	42%	46%	50%	55%	60%	65%	71%	78%	80%
(w/o crust cover)																			
Storage pits <1 month	3.0%					3.0%											30.0%		
Storage pits >1 month	17%	19%	20%	22%	25%	27%	29%	32%	35%	39%	42%	46%	50%	55%	60%	65%	71%	78%	80%
Solid manure storage	2.0%					4.0%											5.0%		
Dry lots (including feedlots)	1.0%					1.5%											2.0%		
High-rise houses for poultry production (without litter)	1.5%					1.5%											1.5%		
Poultry production with litter	1.5%					1.5%											1.5%		
Deep bedding systems for cattle and swine(<1 month)	3.0%					3.0%											30.0%		
Deep bedding systems for cattle and swine (>1 month)	17%	19%	20%	22%	25%	27%	29%	32%	35%	39%	42%	46%	50%	55%	60%	65%	71%	78%	80%
Manure Composting - In Vessel	0.5%					0.5%											0.5%		
Manure Composting - Static Pile	0.5%					0.5%											0.5%		
Manure Composting- Extensive/ Passive	0.5%					1.0%											1.5%		
Manure Composting- Intensive	0.5%					1.0%											1.5%		
Aerobic Treatment	0.0%					0.0%											0.0%		

TABLE JJ–6 TO SUBPART JJ OF PART 98—COLLECTION EFFICIENCIES OF ANAEROBIC DIGESTERS

Anaerobic digester type	Cover type	Methane collection efficiency
Covered anaerobic lagoon (biogas capture)	Bank to bank, impermeable	0.975
	Modular, impermeable	0.70
Complete mix, fixed film, or plug flow digester	Enclosed Vessel	0.99

TABLE JJ–7 TO SUBPART JJ OF PART 98—NITROUS OXIDE EMISSION FACTORS (KG N_2O–N/KG KJDL N)

Manure management system component	N_2O emission factor
Uncovered anaerobic lagoon	0
Liquid/Slurry (with crust cover)	0.005
Liquid/Slurry (without crust cover)	0
Storage pits	0.002
Digesters	0
Solid manure storage	0.005
Dry lots (including feedlots)	0.02
High-rise house for poultry (poultry without litter)	0.001
Poultry production with litter	0.001
Deep bedding for cattle and swine (active mix)	0.07
Deep bedding for cattle and swine (no mix)	0.01
Manure Composting (in vessel)	0.006
Manure Composting (intensive)	0.1
Manure Composting (passive)	0.01
Manure Composting (static)	0.006
Aerobic Treatment (forced aeration)	0.005
Aerobic Treatment (natural aeration)	0.01

Subpart KK [Reserved]

Subpart LL—Suppliers of Coal-based Liquid Fuels

§ 98.380 Definition of the source category.

This source category consists of producers, importers, and exporters of products listed in Table MM–1 of subpart MM that are coal-based (coal-to-liquid products).

(a) A producer is the owner or operator of a coal-to-liquids facility. A coal-to-liquids facility is any facility engaged in converting coal into liquid products using a process involving conversion of coal into gas and then into liquids (e.g., Fischer-Tropsch) or conversion of coal directly into liquids (i.e., direct liquefaction).

(b) An importer or exporter shall have the same meaning given in § 98.6.

§ 98.381 Reporting threshold.

Any supplier of coal-to-liquid products who meets the requirements of § 98.2(a)(4) must report GHG emissions.

§ 98.382 GHGs to report.

You must report the CO_2 emissions that would result from the complete combustion or oxidation of fossil-fuel products (besides coal or crude oil) that you produce, use as feedstock, import, or export during the calendar year. Additionally, producers must report CO_2 emissions that would result from the complete combustion or oxidation of any biomass co-processed with fossil fuel-based feedstocks.

§ 98.383 Calculating GHG emissions.

You must follow the calculation methodologies of § 98.393 as if they applied to the appropriate coal-to-liquid product supplier (i.e., calculation methodologies for refiners apply to producers of coal-to-liquid products and calculation methodologies for importers and exporters of petroleum products apply to importers and exporters of coal-to-liquid products).

(a) In calculation methodologies in § 98.393 for petroleum products or petroleum-based products, suppliers of coal-to-liquid products shall also include coal-to-liquid products.

(b) In calculation methodologies in § 98.393 for non-crude feedstocks or non-crude petroleum feedstocks, producers of coal-to-liquid products shall also include coal-to-liquid products that enter the facility to be further processed or otherwise used on site.

(c) In calculation methodologies in § 98.393 for petroleum feedstocks, suppliers of coal-to-liquid products shall also include coal and coal-to-liquid products that enter the facility to be further processed or otherwise used on site.

§ 98.384 Monitoring and QA/QC requirements.

You must follow the monitoring and QA/QC requirements in § 98.394 as if they applied to the appropriate coal-to-liquid product supplier. Any monitoring and QA/QC requirement for petroleum products in § 98.394 also applies to coal-to-liquid products.

§ 98.385 Procedures for estimating missing data.

You must follow the procedures for estimating missing data in § 98.395 as if they applied to the appropriate coal-to-liquid product supplier. Any procedure for estimating missing data for petroleum products in § 98.395 also applies to coal-to-liquid products.

§ 98.386 Data reporting requirements.

In addition to the information required by § 98.3(c), the following requirements apply:

(a) Producers shall report the following information for each coal-to-liquid facility:

(1) [Reserved]

(2) For each product listed in Table MM–1 of subpart MM of this part that enters the coal-to-liquid facility to be further processed or otherwise used on site, report the total annual quantity in metric tons or barrels. For natural gas liquids, quantity shall reflect the individual components of the product.

(3) For each feedstock reported in paragraph (a)(2) of this section that was produced by blending a fossil fuel-based product with a biomass-based product, report the percent of the volume reported in paragraph (a)(2) of this section that is fossil fuel-based (excluding any denaturant that may be present in any ethanol product).

(4) Each standard method or other industry standard practice used to measure each quantity reported in paragraph (a)(2) of this section.

(5) [Reserved]

(6) For each product (leaving the coal-to-liquid facility) listed in Table MM–1 of subpart MM of this part, report the total annual quantity in metric tons or barrels. For natural gas liquids, quantity shall reflect the individual components of the product. Those products that enter the facility, but are not reported in (a)(2), shall not be reported under this paragraph.

(7) For each product reported in paragraph (a)(6) of this section that was produced by blending a fossil fuel-based product with a biomass-based product, report the percent of the volume reported in paragraph (a)(6) of this section that is fossil fuel-based (excluding any denaturant that may be present in any ethanol product).

(8) Each standard method or other industry standard practice used to measure each quantity reported in paragraph (a)(6) of this section.

(9) For every feedstock reported in paragraph (a)(2) of this section for which Calculation Methodology 2 of subpart MM of this part was used to determine an emissions factor, report:

(i) The number of samples collected according to § 98.394(c).

(ii) The sampling standard method used.

(iii) The carbon share test results in percent mass.

(iv) The standard method used to test carbon share.

(v) The calculated CO_2 emissions factor in metric tons CO_2 per barrel or per metric ton of product.

(10) For every non-solid feedstock reported in paragraph (a)(2) of this section for which Calculation Methodology 2 of subpart MM of this part was used to determine an emissions factor, report:

(i) The density test results in metric tons per barrel.

(ii) The standard method used to test density.

(11) For every product reported in paragraph (a)(6) of this section for which Calculation Methodology 2 of this subpart was used to determine an emissions factor, report:

(i) The number of samples collected according to § 98.394(c).

(ii) The sampling standard method used.

(iii) The carbon share test results in percent mass.

(iv) The standard method used to test carbon share.

(v) The calculated CO_2 emissions factor in metric tons CO_2 per barrel or metric ton of product.

(12) For every non-solid product reported in paragraph (a)(6) of this section for which Calculation Method 2 of subpart MM of this part was used to determine an emissions factor, report:

(i) The density test results in metric tons per barrel.

(ii) The standard method used to test density.

(13) [Reserved]

(14) For each specific type of biomass that enters the coal-to-liquid facility to be co-processed with fossil fuel-based feedstock to produce a product reported in paragraph (a)(6) of this section, report the annual quantity in metric tons or barrels.

(15) Each standard method or other industry standard practice used to measure each quantity reported in paragraph (a)(14) of this section.

(16) The CO_2 emissions in metric tons that would result from the complete combustion or oxidation of each feedstock reported in paragraph (a)(2) of this section that were calculated according to § 98.393(b) or (h).

(17) The CO_2 emissions in metric tons that would result from the complete combustion or oxidation of each product (leaving the coal-to-liquid facility) reported in paragraph (a)(6) of this section that were calculated according to § 98.393(a) or (h).

(18) Annual CO_2 emissions in metric tons that would result from the complete combustion or oxidation of each type of biomass feedstock co-processed with fossil fuel-based feedstocks reported in paragraph (a)(14) of this section, calculated according to § 98.393(c).

(19) Annual CO_2 emissions that would result from the complete combustion or oxidation of all products, calculated according to § 98.393(d).

(20) Annual quantity of bulk NGLs in metric tons or barrels received for processing during the reporting year.

(b) In addition to the information required by § 98.3(c), each importer shall report all of the following information at the corporate level:

(1) [Reserved]

(2) For each product listed in Table MM–1 of subpart MM of this part, report the total annual quantity in metric tons or barrels. For natural gas liquids, quantity shall reflect the individual components of the product as listed in Table MM–1 of subpart MM of this part.

(3) For each product reported in paragraph (b)(2) of this section that was produced by blending a fossil fuel-based product with a biomass-based product, report the percent of the volume reported in paragraph (b)(2) of this section that is fossil fuel-based (excluding any denaturant that may be present in any ethanol product).

(4) Each standard method or other industry standard practice used to measure each quantity reported in paragraph (b)(2) of this section.

(5) For each product reported in paragraph (b)(2) of this section for which Calculation Methodology 2 of this subpart used was used to determine an emissions factor, report:

(i) The number of samples collected according to § 98.394(c)

(ii) The sampling standard method used.

(iii) The carbon share test results in percent mass.

(iv) The standard method used to test carbon share.

(v) The calculated CO_2 emissions factor in metric tons per barrel or per metric ton of product.

(6) For each non-solid product reported in paragraph (b)(2) of this section for which Calculation Methodology 2 of this subpart was used to determine an emissions factor, report:

(i) The density test results in metric tons per barrel.

(ii) The standard method used to test density.

(7) The CO_2 emissions in metric tons that would result from the complete combustion or oxidation of each imported product reported in paragraph (b)(2) of this section, calculated according to § 98.393(a).

(8) The total sum of CO_2 emissions that would result from the complete combustion or oxidation of all imported products, calculated according to § 98.393(e).

(c) In addition to the information required by § 98.3(c), each exporter shall report all of the following information at the corporate level:

(1) [Reserved]

(2) For each product listed in table MM–1 of subpart MM of this part, report the total annual quantity in metric tons or barrels. For natural gas liquids, quantity shall reflect the individual components of the product.

(3) For each product reported in paragraph (c)(2) of this section that was produced by blending a fossil fuel-based product with a biomass-based product, report the percent of the volume reported in paragraph (c)(2) of this section that is fossil fuel-based (excluding any denaturant that may be present in any ethanol product).

(4) Each standard method or other industry standard practice used to measure each quantity reported in paragraph (c)(2) of this section.

(5) For each product reported in paragraph (c)(2) of this section for which

Calculation Methodology 2 of this subpart was used to determine an emissions factor, report:

(i) The number of samples collected according to § 98.394(c).

(ii) The sampling standard method used.

(iii) The carbon share test results in percent mass.

(iv) The standard method used to test carbon share.

(v) The calculated CO_2 emissions factor in metric tons CO_2 per barrel or per metric ton of product.

(6) For each non-solid product reported in paragraph (c)(2) of this section for which Calculation Methodology 2 of this subpart used was used to determine an emissions factor, report:

(i) The density test results in metric tons per barrel.

(ii) The standard method used to test density.

(7) The CO_2 emissions in metric tons that would result from the complete combustion or oxidation of each exported product reported in paragraph (c)(2) of this section, calculated according to § 98.393(a).

(8) Total sum of CO_2 emissions that would result from the complete combustion or oxidation of all exported products, calculated according to § 98.393(e).

(d) *Blended feedstock and products.* (1) Producers, exporters, and importers must report the following information for each blended product and feedstock where emissions were calculated according to § 98.393(i):

(i) Volume or mass of each blending component.

(ii) The CO_2 emissions in metric tons that would result from the complete combustion or oxidation of each blended feedstock or product, using Equation MM–12 or Equation MM–13 of § 98.393.

(iii) Whether it is a blended feedstock or a blended product.

(2) For a product that enters the facility to be further refined or otherwise used on site that is a blended feedstock, producers must meet the reporting requirements of paragraph (a)(2) of this section by reflecting the individual components of the blended feedstock.

(3) For a product that is produced, imported, or exported that is a blended product, producers, importers, and exporters must meet the reporting requirements of paragraphs (a)(6), (b)(2), and (c)(2) of this section, as applicable, by reflecting the individual components of the blended product.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66475, Oct. 28, 2010; 78 FR 71972, Nov. 29, 2013]

§ 98.387 Records that must be retained.

You must retain records according to the requirements in § 98.397 as if they applied to the appropriate coal-to-liquid product supplier (e.g., retaining copies of all reports submitted to EPA under § 98.386 and records to support information contained in those reports). Any records for petroleum products that are required to be retained in § 98.397 are also required for coal-to-liquid products.

§ 98.388 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart MM—Suppliers of Petroleum Products

§ 98.390 Definition of the source category.

This source category consists of petroleum refineries and importers and exporters of petroleum products and natural gas liquids as listed in Table MM–1 of this subpart.

(a) A petroleum refinery for the purpose of this subpart is any facility engaged in producing petroleum products through the distillation of crude oil.

(b) A refiner is the owner or operator of a petroleum refinery.

(c) Importer has the same meaning given in § 98.6 and includes any entity that imports petroleum products or natural gas liquids as listed in Table MM–1 of this subpart. Any blender or refiner of refined or semi-refined petroleum products shall be considered an importer if it otherwise satisfies the aforementioned definition.

(d) Exporter has the same meaning given in § 98.6 and includes any entity that exports petroleum products or

natural gas liquids as listed in Table MM–1 of this subpart. Any blender or refiner of refined or semi-refined petroleum products shall be considered an exporter if it otherwise satisfies the aforementioned definition.

§ 98.391 Reporting threshold.

Any supplier of petroleum products who meets the requirements of § 98.2(a)(4) must report GHG emissions.

§ 98.392 GHGs To report.

Suppliers of petroleum products must report the CO_2 emissions that would result from the complete combustion or oxidation of each petroleum product and natural gas liquid produced, used as feedstock, imported, or exported during the calendar year. Additionally, refiners must report CO_2 emissions that would result from the complete combustion or oxidation of any biomass co-processed with petroleum feedstocks.

§ 98.393 Calculating GHG emissions.

(a) *Calculation for individual products produced, imported, or exported.* (1) Except as provided in paragraphs (h) and (i) of this section, any refiner, importer, or exporter shall calculate CO_2 emissions from each individual petroleum product and natural gas liquid using Equation MM–1 of this section.

$$CO_{2i} = Product_i \star EF_i \qquad \text{(Eq. MM-1)}$$

Where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each petroleum product or natural gas liquid ''i'' (metric tons).

$Product_i$ = Annual volume of product ''i'' produced, imported, or exported by the reporting party (barrels). For refiners, this volume only includes products ex refinery gate, and excludes products that entered the refinery but are not reported under § 98.396(a)(2). For natural gas liquids, volumes shall reflect the individual components of the product as listed in Table MM–1 to subpart MM.

EF_i = Product-specific CO_2 emission factor (metric tons CO_2 per barrel).

(2) In the event that an individual petroleum product is produced as a solid rather than liquid any refiner, importer, or exporter shall calculate CO_2 emissions using Equation MM–1 of this section.

Where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each petroleum product ''i'' (metric tons).

$Product_i$ = Annual mass of product ''i'' produced, imported, or exported by the reporting party (metric tons). For refiners, this mass only includes products ex refinery gate, and excludes products that entered the refinery but are not reported under § 98.396(a)(2).

EF_i = Product-specific CO_2 emission factor (metric tons CO_2 per metric ton of product).

(b) *Calculation for individual products that enter a refinery as a non-crude feedstock.* (1) Except as provided in paragraphs (h) and (i) of this section, any refiner shall calculate CO_2 emissions from each non-crude feedstock using Equation MM–2 of this section.

$$CO_{2j} = Feedstock_j \star EF_j \qquad \text{(Eq. MM-2)}$$

Where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each non-crude feedstock ''j'' (metric tons).

$Feedstock_j$ = Annual volume of a petroleum product or natural gas liquid ''j'' that enters the refinery to be further refined or otherwise used on site (barrels). For natural gas liquids, volumes shall reflect the individual components of the product as listed in table MM–1 of this subpart.

EF_j = Feedstock-specific CO_2 emission factor (metric tons CO_2 per barrel).

(2) In the event that a non-crude feedstock enters a refinery as a solid rather than liquid, the refiner shall calculate CO_2 emissions using Equation MM–2 of this section.

Where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each non-crude feedstock ''j'' (metric tons).

$Feedstock_j$ = Annual mass of a petroleum product ''j'' that enters the refinery to be further refined or otherwise used on site (metric tons).

EF_j = Feedstock-specific CO_2 emission factor (metric tons CO_2 per metric ton of feedstock).

(c) *Calculation for biomass co-processed with petroleum feedstocks.* (1) Refiners shall calculate CO_2 emissions from

each type of biomass that enters a refinery and is co-processed with petroleum feedstocks using Equation MM–3 of this section.

$$CO_{2m} = Biomass_m \star EF_m \quad \text{(Eq. MM-3)}$$

Where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each type of biomass ''m'' (metric tons).

$Biomass_m$ = Annual volume of a specific type of biomass that enters the refinery and is co-processed with petroleum feedstocks to produce a petroleum product reported under paragraph (a) of this section (barrels).

EF_m = Biomass-specific CO_2 emission factor (metric tons CO_2 per barrel).

(2) In the event that biomass enters a refinery as a solid rather than liquid and is co-processed with petroleum feedstocks, the refiner shall calculate CO_2 emissions from each type of biomass using Equation MM–3 of this section.

Where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each type of biomass ''m'' (metric tons).

$Biomass_m$ = Total annual mass of a specific type of biomass that enters the refinery to be co-processed with petroleum feedstocks to produce a petroleum product reported under paragraph (a) of this section (metric tons).

EF_m = Biomass-specific CO_2 emission factor (metric tons CO_2 per metric ton of biomass).

(d) *Summary calculation for refinery products.* Refiners shall calculate annual CO_2 emissions from all products using Equation MM–4 of this section.

$$CO_{2r} = \sum(CO_{2i}) - \sum(CO_{2j}) - \sum(CO_{2m}) \quad \text{(Eq. MM-4)}$$

Where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of all petroleum products and natural gas liquids (ex refinery gate) minus non-crude feedstocks and any biomass to be co-processed with petroleum feedstocks.

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each petroleum product or natural gas liquid ''i'' (metric tons).

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each non-crude feedstock ''j'' (metric tons).

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each type of biomass ''m'' (metric tons).

(e) *Summary calculation for importer and exporter products.* Importers and exporters shall calculate annual CO_2 emissions from all petroleum products and natural gas liquids imported or exported, respectively, using Equations MM–1 and MM–5 of this section.

$$CO_{2x} = \sum(CO_{2i}) \quad \text{(Eq. MM-5)}$$

Where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each petroleum product or natural gas liquid ''i'' (metric tons).

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of all petroleum products and natural gas liquids.

(f) *Emission factors for petroleum products and natural gas liquids.* The emission factor ($EF_{i,j}$) for each petroleum product and natural gas liquid shall be determined using either of the calculation methods described in paragraphs (f)(1) or (f)(2) of this section. The same calculation method must be used for the entire quantity of the product for the reporting year. For refiners, the quantity of a product that enters a refinery (i.e., a non-crude feedstock) is considered separate from the quantity of a product ex refinery gate.

(1) *Calculation Method 1.* To determine the emission factor (i.e., EF_i in Equation MM–1) for solid products, multiply the default carbon share factor (i.e., percent carbon by mass) in column B of Table MM–1 to this subpart for the appropriate product by 44/

12. For all other products, use the default CO_2 emission factor listed in column C of Table MM–1 of this subpart for the appropriate product.

(2) *Calculation Method 2.* (i) For solid products, develop emission factors according to Equation MM–6 of this section using a value of 1 for density and direct measurements of carbon share according to methods set forth in § 98.394(c). For all other products, develop emission factors according to Equation MM–6 of this section using direct measurements of density and carbon share according to methods set forth in § 98.394(c).

$$EF_{i,j} = \text{Density} \star \text{Carbon Share} \star (44/12) \qquad \text{(Eq. MM-6)}$$

Where:

$EF_{i,j}$ = Emission factor of the petroleum product or natural gas liquid (metric tons CO_2 per barrel or per metric ton of product).

Density = Density of the petroleum product or natural gas liquid (metric tons per barrel for non-solid products, 1 for solid products).

Carbon share = Percent of total mass that carbon represents in the petroleum product or natural gas liquid, expressed as a fraction (e.g., 75% would be expressed as 0.75 in the above equation).

44/12 = Conversion factor for carbon to carbon dioxide.

(ii) If you use a standard method that involves gas chromatography to determine the percent mass of each component in a product, calculate the product's carbon share using Equation MM–7 of this section.

$$\text{Carbon Share} = \sum\left(\%\text{Composition}_{i...n} \star \%\text{Mass}_{i...n}\right) \qquad \text{(Eq. MM-7)}$$

Where:

Carbon Share = Percent of total mass that carbon represents in the petroleum product or natural gas liquid.

%Composition i* * *n = Percent of total mass that each molecular component in the petroleum product or natural gas liquid represents as determined by the procedures in the selected standard method.

$\%Mass_{i* * *n}$ = Percent of total mass that carbon represents in each molecular component of the petroleum product or natural gas liquid.

(g) *Emission factors for biomass co-processed with petroleum feedstocks.* Refiners shall use the most appropriate default CO_2 emission factor (EF_m) for biomass in Table MM–2 of this subpart to calculate CO_2 emissions in paragraph (c) of this section.

(h) *Special procedures for blended biomass-based fuels.* In the event that some portion of a petroleum product is biomass-based and was not derived by co-processing biomass and petroleum feedstocks together (i.e., the petroleum product was produced by blending a petroleum-based product with a biomass-based fuel), the reporting party shall calculate emissions for the petroleum product according to one of the methods in paragraphs (h)(1) through (h)(4) of this section, as appropriate.

(1) A reporter using Calculation Method 1 to determine the emission factor of a petroleum product shall calculate the CO_2 emissions associated with that product using Equation MM–8 of this section in place of Equation MM–1 of this section.

$$CO_{2i} = \text{Product}_i \star EF_i \star \%\text{Vol}_i \qquad \text{(Eq. MM-8)}$$

Where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each petroleum product ''i'' (metric tons).

$Product_i$ = Annual volume of each petroleum product ''i'' produced, imported, or exported by the reporting party (barrels). For refiners, this volume only includes products ex refinery gate.

EF_i = Petroleum product-specific CO_2 emission factor (metric tons CO_2 per barrel) from Table MM–1 of this subpart.

$\%Vol_i$ = Percent volume of product ''i'' that is petroleum-based, not including any denaturant that may be present in any ethanol product, expressed as a fraction (e.g., 75% would be expressed as 0.75 in the above equation).

(2) A refinery using Calculation Method 1 of this subpart to determine the emission factor of a non-crude petroleum feedstock shall calculate the CO_2 emissions associated with that feedstock using Equation MM–9 of this section in place of Equation MM–2 of this section.

$$CO_{2j} = Feedstock_j * EF_j * \%Vol_j \qquad \text{(Eq. MM-9)}$$

Where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each non-crude feedstock ''j'' (metric tons).

$Feedstock_j$ = Annual volume of each petroleum product ''j'' that enters the refinery as a feedstock to be further refined or otherwise used on site (barrels).

EF_j = Non-crude petroleum feedstock-specific CO_2 emission factor (metric tons CO_2 per barrel).

$\%Vol_j$ = Percent volume of feedstock ''j'' that is petroleum-based, not including any denaturant that may be present in any ethanol product, expressed as a fraction (e.g., 75% would be expressed as 0.75 in the above equation).

(3) *Calculation Method 2 procedures for products.* (i) A reporter using Calculation Method 2 of this subpart to determine the emission factor of a petroleum product that does not contain denatured ethanol must calculate the CO_2 emissions associated with that product using Equation MM–10 of this section in place of Equation MM–1 of this section.

$$CO_{2i} = \left(Product_i * EF_i\right) - \left(Product_i * EF_m * \%Vol_m\right) \qquad \text{(Eq. MM-10)}$$

where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each product ''i'' (metric tons).

$Product_i$ = Annual volume of each petroleum product ''i'' produced, imported, or exported by the reporting party (barrels). For refiners, this volume only includes products ex refinery gate.

EF_i = Product-specific CO_2 emission factor (metric tons CO_2 per barrel).

EF_m = Default CO_2 emission factor from Table MM–2 to subpart MM that most closely represents the component of product ''i'' that is biomass-based.

$\%Vol_m$ = Percent volume of petroleum product ''i'' that is biomass-based, expressed as a fraction (e.g., 75% would be expressed as 0.75 in the above equation).

(ii) In the event that a petroleum product contains denatured ethanol, importers and exporters must follow Calculation Method 1 procedures in paragraph (h)(1) of this section; and refineries must sample the petroleum portion of the blended biomass-based fuel prior to blending and calculate CO_2 emissions using Equation MM–10a of this section.

$$CO_{2i} = Product_p * EF_i \qquad \text{(Eq. MM-10a)}$$

where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each biomass-blended fuel ''i'' (metric tons).

$Product_p$ = Annual volume of the petroleum-based portion of each biomass blended fuel ''i'' produced by the refiner (barrels).

EF_i = Petroleum product-specific CO_2 emission factor (metric tons CO_2 per barrel).

(4) *Calculation Method 2 procedures for non-crude feedstocks.* (i) A refiner using Calculation Method 2 of this subpart to determine the emission factor of a non-crude petroleum feedstock that does not contain denatured ethanol must calculate the CO_2 emissions associated with that feedstock using Equation MM–11 of this section in place of Equation MM–2 of this section.

$$CO_{2j} = \left(Feedstock_j * EF_j\right) - \left(Feedstock_j * EF_m * \%Vol_m\right) \qquad \text{(Eq. MM-11)}$$

where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of each non-crude feedstock ''j'' (metric tons).

$Feedstock_j$ = Annual volume of each petroleum product ''j'' that enters the refinery to be further refined or otherwise used on site (barrels).

EF_j = Feedstock-specific CO_2 emission factor (metric tons CO_2 per barrel).

EF_m = Default CO_2 emission factor from Table MM–2 to subpart MM that most closely represents the component of petroleum product ''j'' that is biomass-based.

$\%Vol_m$ = Percent volume of non-crude feedstock ''j'' that is biomass-based, expressed as a fraction (e.g., 75% would be expressed as 0.75 in the above equation).

(ii) In the event that a non-crude feedstock contains denatured ethanol, refiners must follow Calculation Method 1 procedures in paragraph (h)(2) of this section.

(i) *Optional procedures for blended products that do not contain biomass.* (1) In the event that a reporter produces, imports, or exports a blended product that does not include biomass, the reporter may calculate emissions for the blended product according to the method in paragraph (i)(2) of this section. In the event that a refiner receives a blended non-crude feedstock that does not include biomass, the refiner may calculate emission for the blended non-crude feedstock according to the method in paragraph (i)(3) of this section. The procedures in this section may be used only if all of the following criteria are met:

(i) The reporter knows the relative proportion of each component of the blend (i.e., the mass or volume percentage).

(ii) Each component of blended product ''i'' or blended non-crude feedstock ''j'' meets the strict definition of a product listed in Table MM–1 to subpart MM.

(iii) The blended product or non-crude feedstock is not comprised entirely of natural gas liquids.

(iv) The reporter uses Calculation Method 1.

(v) Solid components are blended only with other solid components.

(2) The reporter must calculate emissions for the blended product using Equation MM–12 of this section in place of Equation MM–1 of this section.

$$CO_{2i} = \sum\left[Blending\ Component_{i\ldots n} * EF_{i\ldots n}\right] \qquad \text{(Eq. MM-12)}$$

where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of a blended product ''i'' (metric tons).

$Blending\ Component_{i\ldots n}$ = Annual volume or mass of each blending component that is blended (barrels or metric tons).

$EF_{i\ldots n}$ = CO_2 emission factors specific to each blending component (metric tons CO_2 per barrel or per metric ton of product).

n = Number of blending components blended into blended product ''i''.

(3) For refineries, the reporter must calculate emissions for the blended non-crude feedstock using Equation

MM–13 of this section in place of Equation MM–2 of this section.

$$CO_{2i} = \sum \left[Blending\ Component_{i\ldots n} * EF_{i\ldots n} \right] \qquad \text{(Eq. MM-13)}$$

where:

CO_2. = Annual CO_2 emissions that would result from the complete combustion or oxidation of a blended non-crude feedstock ''j'' (metric tons).

Blending $Component_{i...n}$ = Annual volume or mass of each blending component that is blended (barrels or metric tons).

$EF_{i...n}$ = CO_2 emission factors specific to each blending component (metric tons CO_2 per barrel or per metric ton of product).

n = Number of blending components blended into blended non-crude feedstock ''j''.

(4) For refineries, if a blending component ''k'' used in paragraph (i)(2) of this section enters the refinery before blending as non-crude feedstock:

(i) The emissions that would result from the complete combustion or oxidation of non-crude feedstock ''k'' must still be calculated separately using Equation MM–2 of this section and applied in Equation MM–4 of this section.

(ii) The quantity of blending component ''k'' applied in Equation MM–12 of this section and the quantity of non-crude feedstock ''k'' applied in Equation MM–2 of this section must be determined using the same method or practice.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66475, Oct. 28, 2010; 78 FR 71973, Nov. 29, 2013]

§ 98.394 Monitoring and QA/QC requirements.

(a) *Determination of quantity*. (1) The quantity of petroleum products, natural gas liquids, and biomass, shall be determined as follows:

(i) Where an appropriate standard method published by a consensus-based standards organization exists, such a method shall be used. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB).

(ii) Where no appropriate standard method developed by a consensus-based standards organization exists, industry standard practices shall be followed.

(iii) For products that are liquid at 60 degrees Fahrenheit and one standard atmosphere, all measurements of quantity shall be temperature-adjusted and pressure-adjusted to these conditions. For all other products, reporters shall use appropriate standard conditions specified in the standard method; if temperature and pressure conditions are not specified in the standard method or if a reporter uses an industry standard practice to determine quantity, the reporter shall use appropriate standard conditions according to established industry practices.

(2) All measurement equipment (including, but not limited to, flow meters and tank gauges) used for compliance with this subpart shall be appropriate for the standard method or industry standard practice followed under paragraph (a)(1)(i) or (a)(1)(ii) of this section.

(3) The annual quantity of crude oil received shall be determined according to one of the following methods. You may use an appropriate standard method published by a consensus-based standards organization or you may use an industry standard practice.

(b) *Equipment Calibration*. (1) All measurement equipment shall be calibrated prior to its first use for reporting under this subpart, using an appropriate standard method published by a consensus based standards organization or according to the equipment manufacturer's directions.

(2) Measurement equipment shall be recalibrated at the minimum frequency specified by the standard method used

or by the equipment manufacturer's directions.

(3) For units and processes that operate continuously with infrequent outages, it may not be possible to complete the calibration of a flow meter or other measurement device without disrupting normal process operation. In such cases, the owner or operator may postpone the calibration until the next scheduled maintenance outage. The best available information from company records may be used in the interim. Such postponements shall be documented in the monitoring plan that is required under § 98.3(g)(5).

(c) *Procedures for Calculation Method 2 of this subpart.* (1) Reporting parties shall collect one sample of each petroleum product or natural gas liquid on any day of each calendar month of the reporting year in which the quantity of that product was measured in accordance with the requirements of this subpart. For example, if a given product was measured as entering the refinery continuously throughout the reporting year, twelve samples of that product shall be collected over the reporting year, one on any day of each calendar month of that year. If a given product was only measured from April 15 through June 10 of the reporting year, a refiner would collect three samples during that year, one during each of the calendar months of April, May and June on a day when the product was measured as either entering or exiting the refinery. Each sample shall be collected using an appropriate standard method published by a consensus-based standards organization.

(2) Mixing and handling of samples shall be performed using an appropriate standard method published by a consensus-based standards organization.

(3) Density measurement.

(i) For all products that are not solid, reporters shall test for density using an appropriate standard method published by a consensus-based standards organization.

(ii) The density value for a given petroleum product shall be generated by either making a physical composite of all of the samples collected for the reporting year and testing that single sample or by measuring the individual samples throughout the year and defining the representative density value for the sample set by numerical means, i.e., a mathematical composite. If a physical composite is chosen as the option to obtain the density value, the reporter shall submit each of the individual samples collected during the reporting year to the laboratory responsible for generating the composite sample.

(iii) For physical composites, the reporter shall handle the individual samples and the laboratory shall mix them in accordance with an appropriate standard method published by a consensus-based standards organization.

(iv) All measurements of density shall be temperature-adjusted and pressure-adjusted to the conditions assumed for determining the quantities of the product reported under this subpart.

(4) Carbon share measurement.

(i) Reporters shall test for carbon share using an appropriate standard method published by a consensus-based standards organization.

(ii) If a standard method that involves gas chromatography is used to determine the percent mass of each component in a product, the molecular formula for each component shall be obtained from the information provided in the standard method and the atomic mass of each element in a given molecular component shall be obtained from the periodic table of the elements.

(iii) The carbon share value for a given petroleum product shall be generated by either making a physical composite of all of the samples collected for the reporting year and testing that single sample or by measuring the individual samples throughout the year and defining the representative carbon share value for the sample set by numerical means, i.e., a mathematical composite. If a physical composite is chosen as the option to obtain the carbon share value, the reporter shall submit each of the individual samples collected during the reporting year to the laboratory responsible for generating the composite sample.

(iv) For physical composites, the reporter shall handle the individual samples and the laboratory shall mix them

in accordance with an appropriate standard method published by a consensus-based standards organization.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66477, Oct. 28, 2010; 78 FR 71972, Nov. 29, 2013]

§ 98.395 Procedures for estimating missing data.

(a) *Determination of quantity*. Whenever the quality assurance procedures in § 98.394(a) cannot be followed to measure the quantity of one or more petroleum products, natural gas liquids, types of biomass, feedstocks, or crude oil during any period (e.g., if a meter malfunctions), the following missing data procedures shall be used:

(1) For quantities of a product that are purchased or sold, a period of missing data shall be substituted using a reporter's established procedures for billing purposes in that period as agreed to by the party selling or purchasing the product.

(2) For quantities of a product that are not purchased or sold but of which the custody is transferred, a period of missing data shall be substituted using a reporter's established procedures for tracking purposes in that period as agreed to by the party involved in custody transfer of the product.

(b) *Determination of emission factor*. Whenever any of the procedures in § 98.394(c) cannot be followed to develop an emission factor for any reason, Calculation Method 1 of this subpart must be used in place of Calculation Method 2 of this subpart for the entire reporting year.

(c) *Determination of API gravity and sulfur content of crude oil*. For missing data on sulfur content or API gravity, the substitute data value shall be the arithmetic average of the quality-assured values of API gravity or sulfur content in the batch preceding and the batch immediately following the missing data incident. If no quality-assured data are available prior to the missing data incident, the substitute data value shall be the first quality-assured values for API gravity and sulfur content obtained from the batch after the missing data period.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71973, Nov. 29, 2013]

§ 98.396 Data reporting requirements.

In addition to the information required by § 98.3(c), the following requirements apply:

(a) Refiners shall report the following information for each facility:

(1) [Reserved]

(2) For each petroleum product or natural gas liquid listed in Table MM–1 of this subpart that enters the refinery to be further refined or otherwise used on site, report the annual quantity in metric tons or barrels. For natural gas liquids, quantity shall reflect the individual components of the product.

(3) For each feedstock reported in paragraph (a)(2) of this section that was produced by blending a petroleum-based product with a biomass-based product, report the percent of the volume reported in paragraph (a)(2) of this section that is petroleum-based (excluding any denaturant that may be present in any ethanol product).

(4)–(5) [Reserved]

(6) For each petroleum product and natural gas liquid (ex refinery gate) listed in Table MM–1 of this subpart, report the annual quantity in metric tons or barrels. For natural gas liquids, quantity shall reflect the individual components of the product. Petroleum products and natural gas liquids that enter the refinery, but are not reported in (a)(2), shall not be reported under this paragraph.

(7) For each product reported in paragraph (a)(6) of this section that was produced by blending a petroleum-based product with a biomass-based product, report the percent of the volume reported in paragraph (a)(6) of this section that is petroleum-based (excluding any denaturant that may be present in any ethanol product).

(8) [Reserved]

(9) For every feedstock reported in paragraph (a)(2) of this section for which Calculation Method 2 of this subpart was used to determine an emissions factor, report:

(i) The number of samples collected according to § 98.394(c)

(ii) The sampling standard method used.

(iii) The carbon share test results in percent mass.

(iv) The standard method used to test carbon share.

(v) The calculated CO_2 emissions factor in metric tons CO_2 per barrel or per metric ton of product.

(10) For every non-solid feedstock reported in paragraph (a)(2) of this section for which Calculation Method 2 of this subpart was used to determine an emissions factor, report:

(i) The density test results in metric tons per barrel.

(ii) The standard method used to test density.

(11) For every petroleum product and natural gas liquid reported in paragraph (a)(6) of this section for which Calculation Method 2 of this subpart was used to determine an emissions factor, report:

(i) The number of samples collected according to § 98.394(c).

(ii) The sampling standard method used.

(iii) The carbon share test results in percent mass.

(iv) The standard method used to test carbon share.

(v) The calculated CO_2 emissions factor in metric tons CO_2 per barrel or per metric ton of product.

(12) For every non-solid petroleum product and natural gas liquid reported in paragraph (a)(6) for which Calculation Method 2 was used to determine an emissions factor, report:

(i) The density test results in metric tons per barrel.

(ii) The standard method used to test density.

(13) [Reserved]

(14) For each specific type of biomass that enters the refinery to be co-processed with petroleum feedstocks to produce a petroleum product reported in paragraph (a)(6) of this section, report the annual quantity in metric tons or barrels.

(15) [Reserved]

(16) The CO_2 emissions in metric tons that would result from the complete combustion or oxidation of each petroleum product and natural gas liquid (ex refinery gate) reported in paragraph (a)(6) of this section that were calculated according to § 98.393(a) or (h).

(17) The CO_2 emissions in metric tons that would result from the complete combustion or oxidation of each feedstock reported in paragraph (a)(2) of this section that were calculated according to § 98.393(b) or (h).

(18) The CO_2 emissions in metric tons that would result from the complete combustion or oxidation of each type of biomass feedstock co-processed with petroleum feedstocks reported in paragraph (a)(14) of this section, calculated according to § 98.393(c).

(19) The sum of CO_2 emissions that would result from the complete combustion or oxidation of all products, calculated according to § 98.393(d).

(20) For all crude oil that enters the refinery, report the annual quantity in barrels.

(21) The quantity of bulk NGLs in metric tons or barrels received for processing during the reporting year. Report only quantities of bulk NGLs not reported in (a)(2) of this section.

(22) Volume of crude oil in barrels that you injected into a crude oil supply or reservoir.

(b) In addition to the information required by § 98.3(c), each importer shall report all of the following information at the corporate level:

(1) [Reserved]

(2) For each petroleum product and natural gas liquid listed in Table MM–1 of this subpart, report the annual quantity in metric tons or barrels. For natural gas liquids, quantity shall reflect the individual components of the product.

(3) For each product reported in paragraph (b)(2) of this section that was produced by blending a petroleum-based product with a biomass-based product, report the percent of the volume reported in paragraph (b)(2) of this section that is petroleum-based (excluding any denaturant that may be present in any ethanol product).

(4) [Reserved]

(5) For each product reported in paragraph (b)(2) of this section for which Calculation Method 2 of this subpart used was used to determine an emissions factor, report:

(i) The number of samples collected according to § 98.394(c).

(ii) The sampling standard method used.

(iii) The carbon share test results in percent mass.

(iv) The standard method used to test carbon share.

(v) The calculated CO_2 emissions factor in metric tons CO_2 per barrel or per metric ton of product.

(6) For each non-solid product reported in paragraph (b)(2) of this section for which Calculation Method 2 of this subpart was used to determine an emissions factor, report:

(i) The density test results in metric tons per barrel.

(ii) The standard method used to test density.

(7) The CO_2 emissions in metric tons that would result from the complete combustion or oxidation of each imported petroleum product and natural gas liquid reported in paragraph (b)(2) of this section, calculated according to § 98.393(a).

(8) The sum of CO_2 emissions that would result from the complete combustion oxidation of all imported products, calculated according to § 98.393(e).

(c) In addition to the information required by § 98.3(c), each exporter shall report all of the following information at the corporate level:

(1) [Reserved]

(2) For each petroleum product and natural gas liquid listed in Table MM–1 of this subpart, report the annual quantity in metric tons or barrels. For natural gas liquids, quantity shall reflect the individual components of the product.

(3) For each product reported in paragraph (c)(2) of this section that was produced by blending a petroleum-based product with a biomass-based product, report the percent of the volume reported in paragraph (c)(2) of this section that is petroleum based (excluding any denaturant that may be present in any ethanol product).

(4) [Reserved]

(5) For each product reported in paragraph (c)(2) of this section for which Calculation Method 2 of this subpart was used to determine an emissions factor, report:

(i) The number of samples collected according to § 98.394(c).

(ii) The sampling standard method used.

(iii) The carbon share test results in percentmass.

(iv) The standard method used to test carbon share.

(v) The calculated CO_2 emissions factor in metric tons CO_2 per barrel or per metric ton of product.

(6) For each non-solid product reported in paragraph (c)(2) of this section for which Calculation Method 2 of this subpart used was used to determine an emissions factor, report:

(i) The density test results in metric tons per barrel.

(ii) The standard method used to test density.

(7) The CO_2 emissions in metric tons that would result from the complete combustion or oxidation of for each exported petroleum product and natural gas liquid reported in paragraph (c)(2) of this section, calculated according to § 98.393(a).

(8) The sum of CO_2 emissions that would result from the complete combustion or oxidation of all exported products, calculated according to § 98.393(e).

(d) *Blended non-crude feedstock and products.* (1) Refineries, exporters, and importers must report the following information for each blended product and non-crude feedstock where emissions were calculated according to § 98.393(i):

(i) Volume or mass of each blending component.

(ii) The CO_2 emissions in metric tons that would result from the complete combustion or oxidation of each blended non-crude feedstock or product, using Equation MM–12 or Equation MM–13 of this section.

(iii) Whether it is a blended non-crude feedstock or a blended product.

(2) For a product that enters the refinery to be further refined or otherwise used on site that is a blended non-crude feedstock, refiners must meet the reporting requirements of paragraph (a)(2) of this section by reflecting the individual components of the blended non-crude feedstock.

(3) For a product that is produced, imported, or exported that is a blended product, refiners, importers, and exporters must meet the reporting requirements of paragraphs (a)(6), (b)(2), and (c)(2) of this section, as applicable,

by reflecting the individual components of the blended product.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66477, Oct. 28, 2010; 78 FR 71973, Nov. 29, 2013]

§ 98.397 Records that must be retained.

(a) All reporters shall retain copies of all reports submitted to EPA under § 98.396. In addition, all reporters shall maintain sufficient records to support information contained in those reports, including but not limited to information on the characteristics of their feedstocks and products.

(b) Reporters shall maintain records to support quantities that are reported under this subpart, including records documenting any estimations of missing data and the number of calendar days in the reporting year for which substitute data procedures were followed. For all reported quantities of petroleum products, natural gas liquids, and biomass, reporters shall maintain metering, gauging, and other records normally maintained in the course of business to document product and feedstock flows including the date of initial calibration and the frequency of recalibration for the measurement equipment used.

(c) Reporters shall retain laboratory reports, calculations and worksheets used to estimate the CO_2 emissions of the quantities of petroleum products, natural gas liquids, biomass, and feedstocks reported under this subpart.

(d) Reporters shall maintain laboratory reports, calculations and worksheets used in the measurement of density and carbon share for any petroleum product or natural gas liquid for which CO_2 emissions were calculated using Calculation Method 2.

(e) Estimates of missing data shall be documented and records maintained showing the calculations.

(f) Reporters described in this subpart shall also retain all records described in § 98.3(g).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66478, Oct. 28, 2010; 78 FR 71974, Nov. 29, 2013]

§ 98.398 Definitions.

Except as specified in this section, all terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Bulk NGLs for purposes of reporting under this subpart means mixtures of NGLs that are sold or delivered as undifferentiated product.

Natural Gas Liquids (NGLs) for the purposes of reporting under this subpart means hydrocarbons that are separated from natural gas as liquids through the process of absorption, condensation, adsorption, or other methods, and are sold or delivered as differentiated product. Generally, such liquids consist of ethane, propane, butanes, or pentanes plus.

[75 FR 66478, Oct. 28, 2010, as amended at 78 FR 71974, Nov. 29, 2013]

TABLE MM–1 TO SUBPART MM OF PART 98—DEFAULT FACTORS FOR PETROLEUM PRODUCTS AND NATURAL GAS LIQUIDS [1 2]

Products	Column A: density (metric tons/bbl)	Column B: carbon share (% of mass)	Column C: emission factor (metric tons CO_2/bbl)
Finished Motor Gasoline			
Conventional—Summer			
Regular	0.1181	86.66	0.3753
Midgrade	0.1183	86.63	0.3758
Premium	0.1185	86.61	0.3763
Conventional—Winter			
Regular	0.1155	86.50	0.3663
Midgrade	0.1161	86.55	0.3684
Premium	0.1167	86.59	0.3705
Reformulated—Summer			
Regular	0.1167	86.13	0.3686
Midgrade	0.1165	86.07	0.3677
Premium	0.1164	86.00	0.3670

Products	Column A: density (metric tons/bbl)	Column B: carbon share (% of mass)	Column C: emission factor (metric tons CO_2/bbl)
Reformulated—Winter			
Regular	0.1165	86.05	0.3676
Midgrade	0.1165	86.06	0.3676
Premium	0.1166	86.06	0.3679
Gasoline—Other	0.1185	86.61	0.3763
Blendstocks			
CBOB—Summer			
Regular	0.1181	86.66	0.3753
Midgrade	0.1183	86.63	0.3758
Premium	0.1185	86.61	0.3763
CBOB—Winter			
Regular	0.1155	86.50	0.3663
Midgrade	0.1161	86.55	0.3684
Premium	0.1167	86.59	0.3705
RBOB—Summer			
Regular	0.1167	86.13	0.3686
Midgrade	0.1165	86.07	0.3677
Premium	0.1164	86.00	0.3670
RBOB—Winter			
Regular	0.1165	86.05	0.3676
Midgrade	0.1165	86.06	0.3676
Premium	0.1166	86.06	0.3679
Blendstocks—Other	0.1185	86.61	0.3763
Oxygenates			
Methanol	0.1268	37.48	0.1743
GTBA	0.1257	64.82	0.2988
MTBE	0.1181	68.13	0.2950
ETBE	0.1182	70.53	0.3057
TAME	0.1229	70.53	0.3178
DIPE	0.1156	70.53	0.2990
Distillate Fuel Oil			
Distillate No. 1			
Ultra Low Sulfur	0.1346	86.40	0.4264
Low Sulfur	0.1346	86.40	0.4264
High Sulfur	0.1346	86.40	0.4264
Distillate No. 2			
Ultra Low Sulfur	0.1342	87.30	0.4296
Low Sulfur	0.1342	87.30	0.4296
High Sulfur	0.1342	87.30	0.4296
Distillate Fuel Oil No. 4	0.1452	86.47	0.4604
Residual Fuel Oil No. 5 (Navy Special)	0.1365	85.67	0.4288
Residual Fuel Oil No. 6 (a.k.a. Bunker C)	0.1528	84.67	0.4744
Kerosene-Type Jet Fuel	0.1294	86.30	0.4095
Kerosene	0.1346	86.40	0.4264
Diesel—Other	0.1452	86.47	0.4604
Petrochemical Feedstocks			
Naphthas (<401 °F)	0.1158	84.11	0.3571
Other Oils (>401 °F)	0.1390	87.30	0.4450
Unfinished Oils			
Heavy Gas Oils	0.1476	85.80	0.4643
Residuum	0.1622	85.70	0.5097
Other Petroleum Products and Natural Gas Liquids			
Aviation Gasoline	0.1120	85.00	0.3490
Special Naphthas	0.1222	84.76	0.3798
Lubricants	0.1428	85.80	0.4492
Waxes	0.1285	85.30	0.4019
Petroleum Coke	0.1818	92.28	0.6151
Asphalt and Road Oil	0.1634	83.47	0.5001
Still Gas	0.1405	77.70	0.4003

Products	Column A: density (metric tons/bbl)	Column B: carbon share (% of mass)	Column C: emission factor (metric tons CO_2/bbl)
Ethane [3]	0.0579	79.89	0.170
Ethylene [4]	0.0492	85.63	0.154
Propane [3]	0.0806	81.71	0.241
Propylene [3]	0.0827	85.63	0.260
Butane [3]	0.0928	82.66	0.281
Butylene [3]	0.0972	85.63	0.305
Isobutane [3]	0.0892	82.66	0.270
Isobutylene [3]	0.0949	85.63	0.298
Isobutylene	0.0936	85.63	0.2939
Pentanes Plus	0.1055	83.63	0.3235
Miscellaneous Products	0.1380	85.49	0.4326

[1] In the case of products blended with some portion of biomass-based fuel, the carbon share in Table MM–1 of this subpart represents only the petroleum-based components.
[2] Products that are derived entirely from biomass should not be reported, but products that were derived from both biomass and a petroleum product (i.e., co-processed) should be reported as the petroleum product that it most closely represents.
[3] The density and emission factors for components of LPG determined at 60 degrees Fahrenheit and saturation pressure (LPGs other than ethylene).
[4] The density and emission factor for ethylene determined at 41 degrees Fahrenheit and saturation pressure.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71975, Nov. 29, 2013]

TABLE MM–2 TO SUBPART MM OF PART 98—DEFAULT FACTORS FOR BIOMASS-BASED FUELS AND BIOMASS

Biomass-based fuel and biomass	Column A: Density (metric tons/bbl)	Column B: Carbon share (% of mass)	Column C: Emission factor (metric tons CO_2/bbl)
Ethanol (100%)	0.1267	52.14	0.2422
Biodiesel (100%, methyl ester)	0.1396	77.30	0.3957
Rendered Animal Fat	0.1333	76.19	0.3724
Vegetable Oil	0.1460	76.77	0.4110

Subpart NN—Suppliers of Natural Gas and Natural Gas Liquids

§ 98.400 Definition of the source category.

This supplier category consists of natural gas liquids fractionators and local natural gas distribution companies.

(a) Natural gas liquids fractionators are installations that fractionate natural gas liquids (NGLs) into their constituent liquid products or mixtures of products (ethane, propane, normal butane, isobutane or pentanes plus) for supply to downstream facilities.

(b) Local Distribution Companies (LDCs) are companies that own or operate distribution pipelines, not interstate pipelines or intrastate pipelines, that physically deliver natural gas to end users and that are within a single state that are regulated as separate operating companies by State public utility commissions or that operate as independent municipally-owned distribution systems. LDCs do not include pipelines (both interstate and intrastate) delivering natural gas directly to major industrial users and farm taps upstream of the local distribution company inlet.

(c) This supply category does not consist of the following facilities:

(1) Field gathering and boosting stations.

(2) Natural gas processing plants that separate NGLs from natural gas and produce bulk or y-grade NGLs but do not fractionate these NGLs into their constituent products.

(3) Facilities that meet the definition of refineries and report under subpart MM of this part.

(4) Facilities that meet the definition of petrochemical plants and report under subpart X of this part.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71975, Nov. 29, 2013]

§ 98.401 Reporting threshold.

Any supplier of natural gas and natural gas liquids that meets the requirements of § 98.2(a)(4) must report GHG emissions.

§ 98.402 GHGs to report.

(a) NGL fractionators must report the CO_2 emissions that would result from the complete combustion or oxidation of the annual quantity of ethane, propane, normal butane, isobutane, and pentanes plus that is produced and sold or delivered to others.

(b) LDCs must report the CO_2 emissions that would result from the complete combustion or oxidation of the annual volumes of natural gas provided to end-users on their distribution systems.

§ 98.403 Calculating GHG emissions.

(a) LDCs and fractionators shall, for each individual product reported under this part, calculate the estimated CO_2 emissions that would result from the complete combustion or oxidation of the products supplied using either of Calculation Methodology 1 or 2 of this subpart:

(1) *Calculation Methodology 1.* NGL fractionators shall estimate CO_2 emissions that would result from the complete combustion or oxidation of the product(s) supplied using Equation NN–1 of this section. LDCs shall estimate CO_2 emissions that would result from the complete combustion or oxidation of the product received at the city gate using Equation NN–1. For each product, use the default value for higher heating value and CO_2 emission factor in Table NN–1 of this subpart. Alternatively, for each product, a reporter-specific higher heating value and CO_2 emission factor may be used, in place of one or both defaults provided they are developed using methods outlined in § 98.404. For each product, you must use the same volume unit throughout the equation.

$$CO_{2i} = 1 \text{ x } 10^{-3} \star \sum \text{Fuel}_h \star \text{HHV}_h \star \text{EF}_h \qquad \text{(Eq. NN-1)}$$

Where:

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of each product ''h'' for redelivery to all recipients (metric tons).

$Fuel_h$ = Total annual volume of product ''h'' supplied (volume per year, in thousand standard cubic feet (Mscf) for natural gas and bbl for NGLs).

HHV_h = Higher heating value of product ''h'' supplied (MMBtu/Mscf or MMBtu/bbl).

EF_h = CO_2 emission factor of product ''h'' (kg CO_2/MMBtu).

1×10^{-3} = Conversion factor from kilograms to metric tons (MT/kg).

(2) *Calculation Methodology 2.* NGL fractionators shall estimate CO_2 emissions that would result from the complete combustion or oxidation of the product(s) supplied using Equation NN–2 of this section. LDCs shall estimate CO_2 emissions that would result from the complete combustion or oxidation of the product received at the city gate using Equation NN–2. For each product, use the default CO_2 emission factor found in Table NN–2 of this subpart. Alternatively, for each product, a reporter-specific CO_2 emission factor may be used in place of the default factor, provided it is developed using methods outlined in § 98.404. For each product, you must use the same volume unit throughout the equation.

$$CO_{2i} = \sum_h Fuel_h * EF_h \qquad \text{(Eq. NN-2)}$$

Where:

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of each product ''h'' (metric tons)

$Fuel_h$ = Total annual volume of product ''h'' supplied (volume per year, in Mscf for natural gas and bbl for NGLs).

EF_h = CO_2 emission factor of product ''h'' (MT CO_2/bbl, or MT CO_2/Mscf)

(b) Each LDC shall follow the procedures below.

(1) For natural gas that is received for redelivery to downstream gas transmission pipelines and other local distribution companies, use Equation NN–

3 of this section and the default values for the CO_2 emission factors found in Table NN–2 of this subpart. Alternatively, reporter-specific CO_2 emission factors may be used, provided they are developed using methods outlined in § 98.404.

$$CO_{2j} = \text{Fuel} \star \text{EF} \qquad \text{(Eq. NN-3)}$$

Where:

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas for redelivery to transmission pipelines or other LDCs (metric tons).

Fuel = Total annual volume of natural gas supplied (Mscf per year).

EF = Fuel-specific CO_2 emission factor (MT CO_2/Mscf).

(2)(i) For natural gas delivered to large end-users, use Equation NN–4 of this section and the default values for the CO_2 emission factors found in Table NN–2 of this subpart. A large end-user means any end-user facility receiving greater than or equal to 460,000 Mscf of natural gas per year. If the LDC does not know the total quantity of gas delivered to the end-user facility based on readily available information in the LDCs possession, then large end-user means any single meter at an end-user facility to which the LDC delivers equal to or greater than 460,000 Mscf per year.

(ii) Alternatively, reporter-specific CO_2 emission factors may be used, provided they are developed using methods outlined in § 98.404.

$$CO_{2k} = \text{Fuel} \star \text{EF} \qquad \text{(Eq. NN-4)}$$

Where:

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas delivered to each large end-user k, as defined in paragraph (b)(2)(i) of this section (metric tons).

Fuel = Total annual volume of natural gas supplied to each large end-user k, as defined in paragraph (b)(2)(i) of this section (Mscf per year).

EF = Fuel-specific CO_2 emission factor (MT CO_2/Mscf).

(3) For the net change in natural gas stored on system by the LDC during the reporting year, use Equation NN–5a of this section. For natural gas that is received by means other than through the city gate, and is not otherwise accounted for by Equation NN–1 or NN–2 of this section, use Equation NN–5b of this section.

(i) For natural gas received by the LDC that is injected into on-system storage, and/or liquefied and stored, and for gas removed from storage and used for deliveries, use Equation NN–5a of this section and the default value for the CO_2 emission factors found in Table NN–2 of this subpart. Alternatively, a reporter-specific CO_2 emission factor may be used, provided it is developed using methods outlined in § 98.404.

$$CO_{2l} = [Fuel_1 - Fuel_2] * EF \qquad \text{(Eq. NN-5a)}$$

Where:

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of the net change in natural gas stored on system by the LDC within the reporting year (metric tons).

$Fuel_1$ = Total annual volume of natural gas added to storage on-system or liquefied and stored in the reporting year (Mscf per year).

$Fuel_2$ = Total annual volume of natural gas that is removed from storage or vaporized and removed from storage and used for deliveries to customers or other LDCs by the LDC within the reporting year (Mscf per year).

EF = Annual average CO_2 emission factor for natural gas placed into/removed from storage (MT CO_2/Mscf).

(ii) For natural gas received by the LDC that bypassed the city gate, use Equation NN–5b of this section. This includes natural gas received directly by LDC systems from producers or natural gas processing plants from local production, received as a liquid and vaporized for delivery, or received from any other source that bypassed the city gate. Use the default value for the CO_2 emission factors found in Table NN–2 of this subpart. Alternatively, a

reporter-specific CO_2 emission factor may be used, provided it is developed using methods outlined in § 98.404.

$$CO_{2n} = Fuel_z * EF_z \qquad \text{(Eq. NN-5b)}$$

Where:

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas received that bypassed the city gate and is not otherwise accounted for by Equation NN–1 or NN–2 of this section (metric tons).

$Fuel_z$ = Total annual volume of natural gas received that was not otherwise accounted for by Equation NN–1 or NN–2 of this section (natural gas from producers and natural gas processing plants from local production, or natural gas that was received as a liquid, vaporized and delivered, and any other source that bypassed the city gate). (Mscf per year)

EF_z = Fuel-specific CO_2 emission factor (MT CO_2/Mscf)

(4) Calculate the total CO_2 emissions that would result from the complete combustion or oxidation of the annual supply of natural gas to end-users that receive a supply less than 460,000 Mscf per year using Equation NN–6 of this section.

$$CO_2 = CO_{2i} + CO_{2n} - CO_{2j} - \sum CO_{2k} - CO_{2l} \qquad \text{(Eq. NN-6)}$$

Where:

CO_2 = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas delivered to LDC end-users not covered in paragraph (b)(2) of this section (metric tons).

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas received at the city gate as calculated in paragraph (a)(1) or (2) of this section (metric tons).

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas delivered to transmission pipelines or other LDCs as calculated in paragraph (b)(1) of this section (metric tons).

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas delivered to each large end-user as calculated in paragraph (b)(2) of this section (metric tons).

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of the net change in natural gas stored by the LDC within the reported year as calculated in paragraph (b)(3)(i) of this section (metric tons).

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas that was received by the LDC directly from sources bypassing the city gate, and is not otherwise accounted for in Equation NN–1 or NN–2 of this section, as calculated in paragraph (b)(3)(ii) of this section (metric tons).

(c) Each NGL fractionator shall follow the following procedures.

(1)(i) For fractionated NGLs received by the reporter from other NGL fractionators, you shall use Equation NN–7 of this section and the default values for the CO_2 emission factors found in Table NN–2 of this subpart.

(ii) Alternatively, reporter-specific CO_2 emission factors may be used, provided they are developed using methods outlined in § 98.404.

$$CO_{2m} = \sum_g Fuel_g \star EF_g \qquad \text{(Eq. NN-7)}$$

Where:

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of each fractionated NGL product ''g'' received from other fractionators (metric tons).

$Fuel_g$ = Total annual volume of each NGL product ''g'' received (bbls).

EF_g = Fuel-specific CO_2 emission factor of NGL product ''g'' (MT CO_2/bbl).

(2) Calculate the total CO_2 equivalent emissions that would result from the combustion or oxidation of fractionated NGLs supplied less the

quantity received from other fractionators using Equation NN–8 of this section.

$$CO_2 = CO_{2i} - CO_{2m} \qquad \text{(Eq. NN-8)}$$

Where:

CO_2 = Annual CO_2 mass emissions that would result from the combustion or oxidation of fractionated NGLs delivered to customers or on behalf of customers less the quantity received from other fractionators (metric tons).

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of fractionated NGLs delivered to all customers or on behalf of customers as calculated in paragraph (a)(1) or (a)(2) of this section (metric tons).

CO_2. = Annual CO_2 mass emissions that would result from the combustion or oxidation of fractionated NGLs received from other fractionators and calculated in paragraph (c)(1) of this section (metric tons).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66478, Oct. 28, 2010; 78 FR 71975, Nov. 29, 2013]

§ 98.404 Monitoring and QA/QC requirements.

(a) *Determination of quantity*. (1) NGL fractionators and LDCs shall determine the quantity of NGLs and natural gas using methods in common use in the industry for billing purposes as audited under existing Sarbanes Oxley regulationn.

(i) Where an appropriate standard method published by a consensus-based standards organization exists, such a method shall be used. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB).

(ii) Where no appropriate standard method developed by a consensus-based standards organization exists, industry standard practices shall be followed.

(2) NGL fractionators and LDCs shall base the minimum frequency of the product quantity measurements, to be summed to the annual quantity reported, on the reporter's standard practices for commercial operations.

(i) For NGL fractionators the minimum frequency of measurements shall be the measurements taken at custody transfers summed to the annual reportable volume.

(ii) For natural gas the minimum frequency of measurement shall be based on the LDC's standard measurement schedules used for billing purposes and summed to the annual reportable volume.

(3) NGL fractionators shall use measurement for NGLs at custody tranfer meters or at such meters that are used to determine the NGL product slate delivered from the fractionation facility.

(4) If a NGL fractionator supplies a product not listed in Table NN–1 of this subpart that is a mixture or blend of two or more products listed in Tables NN–1 and NN–2 of this subpart, the NGL fractionator shall report the quantities of the constituents of the mixtures or blends separately.

(5) For an LDC using Equation NN–1 or NN–2 of this subpart, the point(s) of measurement for the natural gas volume received shall be the LDC city gate meter(s).

(i) If the LDC makes its own quantity measurements according to established business practices, its own measurements shall be used.

(ii) If the LDC does not make its own quantity measurements according to established business practices, it shall use its delivering pipeline invoiced measurements for natural gas deliveries to the LDC city gate, used in determining daily system sendout.

(6) An LDC using Equation NN–3 of this subpart shall measure natural gas at the custody transfer meters.

(7) An LDC using Equation NN–4 of this subpart shall measure natural gas at the large end-user's meter(s). Where a large end-user is known to have more than one meter located at their facility, based on readily available information in the LDCs possession, the reporter shall measure the natural gas at each meter and sum the annual volume delivered to all meters located at the end-user's facility to determine the total volume delivered to the large end-user. Otherwise, the reporter shall

consider the total annual volume delivered through each single meter at a single particular location to be the volume delivered to an individual large end-user.

(8) An LDC using Equation NN–5a and/or NN–5b of this subpart shall measure natural gas as follows:

(i) $Fuel_1$ shall be measured at the on-system storage injection meters and/or at the meters measuring natural gas to be liquefied.

(ii) $Fuel_2$ shall be measured at the meters used for measuring on-system storage withdrawals and/or LNG vaporization injection.

(iii) $Fuel_z$ shall be measured using established business practices.

(9) An LDC shall measure all natural gas under the following standard industry temperature and pressure conditions: Cubic foot of gas at a temperature of 60 degrees Fahrenheit and at an absolute pressure of one atmosphere.

(b) *Determination of higher heating values (HHV).* (1) When a reporter uses the default HHV provided in this section to calculate Equation NN–1 of this subpart, the appropriate value shall be taken from Table NN–1 of this subpart.

(2) When a reporter uses a reporter-specific HHV to calculate Equation NN–1 of this subpart, an appropriate standard test published by a consensus-based standards organization shall be used. Consensus-based standards organizations include, but are not limited to, the following: AGA and GPA.

(i) If an LDC makes its own HHV measurements according to established business practices, then its own measurements shall be used.

(ii) If an LDC does not make its own measurements according to established business practices, it shall use its delivering pipeline measurements.

(c) *Determination of emission factor (EF).* (1) When a reporter used the default EF provided in this section to calculate Equation NN–1 of this subpart, the appropriate value shall be taken from Table NN–1 of this subpart.

(2) When a reporter used the default EF provided in this section to calculate Equation NN–2, NN–3, NN–4, NN–5a, NN–5b, or NN–7 of this subpart, the appropriate value shall be taken from Table NN–2 of this subpart.

(3) When a reporter uses a reporter-specific EF, the reporter shall use an appropriate standard method published by a consensus-based standards organization to conduct compositional analysis necessary to determine reporter-specific CO_2 emission factors. Consensus-based standards organizations include, but are not limited to, the following: AGA and GPA.

(d) *Equipment Calibration.* (1) Equipment used to measure quantities in Equations NN–1, NN–2, NN–5a and NN–5b of this subpart shall be calibrated prior to its first use for reporting under this subpart, using a suitable standard method published by a consensus based standards organization or according to the equipment manufacturer's directions.

(2) Equipment used to measure quantities in Equations NN–1, NN–2, NN–5a, and NN–5b of this subpart shall be recalibrated at the frequency specified by the standard method used or by the manufacturer's directions.

(3) Equipment used to measure quantities in Equations NN–3 and NN–4 of this subpart shall be recalibrated at the frequency commonly used within the industry.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71976, Nov. 29, 2013]

§ 98.405 Procedures for estimating missing data.

(a) Whenever a quality-assured value of the quantity of natural gas liquids or natural gas supplied during any period is unavailable (e.g., if a flow meter malfunctions), a substitute data value for the missing quantity measurement must be used in the calculations according to paragraphs (b) and (c) of this section.

(b) *Determination of quantity.* (1) NGL fractionators shall substitute meter records provided by pipeline(s) for all pipeline receipts of NGLs; by manifests for deliveries made to trucks or rail cars; or metered quantities accepted by the entities purchasing the output from the fractionator whether by pipeline or by truck or rail car. In cases where the metered data from the receiving pipeline(s) or purchasing entities are not available, fractionators

may substitute estimates based on contract quantities required to be delivered under purchase or delivery contracts with other parties.

(2) LDCs shall either substitute their delivering pipeline metered deliveries at the city gate or substitute nominations and scheduled delivery quantities for the period when metered values of actual deliveries are not available.

(c) *Determination of HHV and EF.* (1) Whenever an LDC that makes its own HHV measurements according to established business practices cannot follow the quality assurance procedures for developing a reporter-specific HHV, as specified in § 98.404, during any period for any reason, the reporter shall use either its delivering pipeline measurements or the default HHV provided in Table NN–1 of this part for that period.

(2) Whenever an LDC that does not make its own HHV measurements according to established business practices or an NGL fractionator cannot follow the quality assurance procedures for developing a reporter-specific HHV, as specified in § 98.404, during any period for any reason, the reporter shall use the default HHV provided in Table NN–1 of this part for that period.

(3) [Reserved]

(4) Whenever a reporter cannot follow the quality assurance procedures for developing a reporter-specific EF, as specified in § 98.404, during any period for any reason, the reporter shall use the default EF provided in § 98.408 for that period.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71977, Nov. 29, 2013]

§ 98.406 Data reporting requirements.

(a) In addition to the information required by § 98.3(c), the annual report for each NGL fractionator covered by this rule shall contain the following information.

(1) Annual quantity (in barrels) of each NGL product supplied to downstream facilities in the following product categories: ethane, propane, normal butane, isobutane, and pentanes plus.

(2) Annual quantity (in barrels) of each NGL product received from other NGL fractionators in the following product categories: ethane, propane, normal butane, isobutane, and pentanes plus.

(3) Annual volumes in Mscf of natural gas received for processing.

(4) Annual quantities (in barrels) of y-grade, o-grade, and other bulk NGLs:

(i) Received.

(ii) Supplied to downstream users that are not fractionated by the reporter.

(5) Annual quantity (in barrels) of propane that the NGL fractionator odorizes at the facility and delivers to others.

(6) Annual CO_2 emissions (metric tons) that would result from the complete combustion or oxidation of the quantities in paragraphs (a)(1) and (a)(2) of this section, calculated in accordance with § 98.403(a) and (c)(1).

(7) Annual CO_2 mass emissions (metric tons) that would result from the combustion or oxidation of fractionated NGLs supplied less the quantity received from other fractionators, calculated in accordance with § 98.403(c)(2). If the calculated value is negative, the reporter shall report the value as zero.

(8) The specific industry standard used to measure each quantity reported in paragraph (a)(1) of this section.

(9) If the NGL fractionator developed reporter-specific EFs or HHVs, report the following for each product type:

(i) The specific industry standard(s) used to develop reporter-specific higher heating value(s) and/or emission factor(s), pursuant to § 98.404(b)(2) and (c)(3).

(ii) The developed HHV(s).

(iii) The developed EF(s).

(b) In addition to the information required by § 98.3(c), the annual report for each LDC shall contain the following information.

(1) Annual volume in Mscf of natural gas received by the LDC at its city gate stations for redelivery on the LDC's distribution system, including for use by the LDC.

(2) Annual volume in Mscf of natural gas placed into storage or liquefied and stored ($Fuel_1$ in Equation NN–5a).

(3) Annual volume in Mscf of natural gas withdrawn from on-system storage and annual volume in Mscf of vaporized liquefied natural gas (LNG) withdrawn

from storage for delivery on the distribution system ($Fuel_2$ in Equation NN–5a).

(4) [Reserved]

(5) Annual volume in Mscf of natural gas that bypassed the city gate(s) and was supplied through the LDC distribution system. This includes natural gas from producers and natural gas processing plants from local production, or natural gas that was vaporized upon receipt and delivered, and any other source that bypassed the city gate ($Fuel_z$ in Equation NN–5b).

(6) Annual volume in Mscf of natural gas delivered to downstream gas transmission pipelines and other local distribution companies.

(7) Annual volume in Mscf of natural gas delivered by the LDC to each large end-user as defined in § 98.403(b)(2)(i) of this section.

(8) The total annual CO_2 mass emissions (metric tons) associated with the volumes in paragraphs (b)(1) through (b)(7) of this section, calculated in accordance with § 98.403(a) and (b)(1) through (b)(3).

(9) Annual CO_2 emissions (metric tons) that would result from the complete combustion or oxidation of the annual supply of natural gas to end-users registering less than 460,000 Mscf, calculated in accordance with § 98.403(b)(4). If the calculated value is negative, the reporter shall report the value as zero.

(10) The specific industry standard used to develop the volume reported in paragraph (b)(1) of this section.

(11) If the LDC developed reporter-specific EFs or HHVs, report the following:

(i) The specific industry standard(s) used to develop reporter-specific higher heating value(s) and/or emission factor(s), pursuant to § 98.404 (b)(2) and (c)(3).

(ii) The developed HHV(s).

(iii) The developed EF(s).

(12) The customer name, address, and meter number of each large end-user reported in paragraph (b)(7) of this section. Additionally, report whether the quantity of natural gas reported in paragraph (b)(7) of this section is the total quantity delivered to a large end-user's facility, or the quantity delivered to a specific meter located at the facility.

(i) If known, report the EIA identification number of each LDC customer.

(ii) [Reserved]

(13) The annual volume in Mscf of natural gas delivered by the local distribution company to each of the following end-use categories. For definitions of these categories, refer to EIA Form 176 (Annual Report of Natural Gas and Supplemental Gas Supply & Disposition) and Instructions.

(i) Residential consumers.

(ii) Commercial consumers.

(iii) Industrial consumers.

(iv) Electricity generating facilities.

(c) Each reporter shall report the number of days in the reporting year for which substitute data procedures were used for the following purpose:

(1) To measure quantity.

(2) To develop HHV(s).

(3) To develop EF(s).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66479, Oct. 28, 2010; 78 FR 71977, Nov. 29, 2013]

§ 98.407 Records that must be retained.

In addition to the information required by § 98.3(g), the reporter shall retain the following records:

(a) Records of all meter readings and documentation to support volumes of natural gas and NGLs that are reported under this part.

(b) Records documenting any estimates of missing metered data and showing the calculations of the values used for the missing data.

(c) Calculations and worksheets used to estimate CO_2 emissions for the volumes reported under this part.

(d) Records related to the large end-users identified in § 98.406(b)(7).

(e) Records relating to measured Btu content or carbon content showing specific industry standards used to develop reporter-specific higher heating values and emission factors.

(f) Records of such audits as required by Sarbanes Oxley regulations on the accuracy of measurements of volumes of natural gas and NGLs delivered to customers or on behalf of customers.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66479, Oct. 28, 2010]

§ 98.408 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE NN–1 TO SUBPART NN OF PART 98—DEFAULT FACTORS FOR CALCULATION METHODOLOGY 1 OF THIS SUBPART

Fuel	Default higher heating value [1]	Default CO_2 emission factor (kg CO_2/MMBtu)
Natural Gas	1.026 MMBtu/Mscf	53.06
Propane	3.84 MMBtu/bbl	62.87
Normal butane	4.34 MMBtu/bbl	64.77
Ethane	2.85 MMBtu/bbl	59.60
Isobutane	4.16 MMBtu/bbl	64.94
Pentanes plus	4.62 MMBtu/bbl	70.02

[1] Conditions for higher heating values presented in MMBtu/bbl are 60 °F and saturation pressure.

[78 FR 71977, Nov. 29, 2013]

TABLE NN–2 TO SUBPART NN OF PART 98—DEFAULT VALUES FOR CALCULATION METHODOLOGY 2 OF THIS SUBPART

Fuel	Unit	Default CO_2 emission value (MT CO_2/Unit) [1]
Natural Gas	Mscf	0.0544
Propane	Barrel	0.241
Normal butane	Barrel	0.281
Ethane	Barrel	0.170
Isobutane	Barrel	0.270
Pentanes plus	Barrel	0.324

[1] Conditions for emission value presented in MT CO_2/bbl are 60 °F and saturation pressure.

[78 FR 71977, Nov. 29, 2013, as amended at 79 FR 3508, Jan. 22, 2014]

Subpart OO—Suppliers of Industrial Greenhouse Gases

§ 98.410 Definition of the source category.

(a) The industrial gas supplier source category consists of any facility that produces a fluorinated GHG or nitrous oxide, any bulk importer of fluorinated GHGs or nitrous oxide, and any bulk exporter of fluorinated GHGs or nitrous oxide.

(b) To produce a fluorinated GHG means to manufacture a fluorinated GHG from any raw material or feedstock chemical. Producing a fluorinated GHG includes the manufacture of a fluorinated GHG as an isolated intermediate for use in a process that will result in its transformation either at or outside of the production facility. Producing a fluorinated GHG also includes the creation of a fluorinated GHG (with the exception of HFC–23) that is captured and shipped off site for any reason, including destruction. Producing a fluorinated GHG does not include the reuse or recycling of a fluorinated GHG, the creation of HFC–23 during the production of HCFC–22, the creation of intermediates that are created and transformed in a single process with no storage of the intermediates, or the creation of fluorinated GHGs that are released or destroyed at the production facility before the production measurement at § 98.414(a).

(c) To produce nitrous oxide means to produce nitrous oxide by thermally decomposing ammonium nitrate (NH_4NO_3). Producing nitrous oxide does not include the reuse or recycling of nitrous oxide or the creation of by-products that are released or destroyed at the production facility.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79167, Dec. 17, 2010]

§ 98.411 Reporting threshold.

Any supplier of industrial greenhouse gases who meets the requirements of § 98.2(a)(4) must report GHG emissions.

§ 98.412 GHGs to report.

You must report the GHG emissions that would result from the release of the nitrous oxide and each fluorinated GHG that you produce, import, export, transform, or destroy during the calendar year.

§ 98.413 Calculating GHG emissions.

(a) Calculate the total mass of each fluorinated GHG or nitrous oxide produced annually, except for amounts that are captured solely to be shipped off site for destruction, by using Equation OO–1 of this section:

$$P = \sum_{p=1}^{n} P_p \qquad \text{(Eq. OO-1)}$$

P = Mass of fluorinated GHG or nitrous oxide produced annually.

P_p = Mass of fluorinated GHG or nitrous oxide produced over the period ''p''.

(b) Calculate the total mass of each fluorinated GHG or nitrous oxide produced over the period ''p'' by using Equation OO–2 of this section:

$$P_p = O_p - U_p \qquad \text{(Eq. OO-2)}$$

Where:

P_p = Mass of fluorinated GHG or nitrous oxide produced over the period ''p'' (metric tons).

O_p = Mass of fluorinated GHG or nitrous oxide that is measured coming out of the production process over the period p (metric tons).

U_p = Mass of used fluorinated GHG or nitrous oxide that is added to the production process upstream of the output measurement over the period ''p'' (metric tons).

(c) Calculate the total mass of each fluorinated GHG or nitrous oxide transformed by using Equation OO–3 of this section:

$$T = F_T * E_T \qquad \text{(Eq. OO-3)}$$

Where:

T = Mass of fluorinated GHG or nitrous oxide transformed annually (metric tons).

F_T = Mass of fluorinated GHG fed into the transformation process annually (metric tons).

E_T = The fraction of the fluorinated GHG or nitrous oxide fed into the transformation process that is transformed in the process (metric tons).

(d) Calculate the total mass of each fluorinated GHG destroyed by using Equation OO–4 of this section:

$$D = F_D * DE \qquad \text{(Eq. OO-4)}$$

Where:

D = Mass of fluorinated GHG destroyed annually (metric tons).

F_D = Mass of fluorinated GHG fed into the destruction device annually (metric tons).

DE = Destruction efficiency of the destruction device (fraction).

§ 98.414 Monitoring and QA/QC requirements.

(a) The mass of fluorinated GHGs or nitrous oxide coming out of the production process shall be measured using flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of one percent of full scale or better. If the measured mass includes more than one fluorinated GHG, the concentrations of each of the fluorinated GHGs, other than low-concentration constituents, shall be measured as set forth in paragraph (n) of this section. For each fluorinated GHG, the mean of the concentrations of that fluorinated GHG (mass fraction) measured under paragraph (n) of this section shall be multiplied by the mass measurement to obtain the mass of that fluorinated GHG coming out of the production process.

(b) The mass of any used fluorinated GHGs or used nitrous oxide added back into the production process upstream of the output measurement in paragraph (a) of this section shall be measured using flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of one percent of full scale or better. If the mass in paragraph (a) of this section is measured by weighing containers that include returned heels as well as newly produced fluorinated GHGs, the returned heels

shall be considered used fluorinated GHGs for purposes of this paragraph (b) of this section and § 98.413(b).

(c) The mass of fluorinated GHGs or nitrous oxide fed into the transformation process shall be measured using flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of one percent of full scale or better.

(d) The fraction of the fluorinated GHGs or nitrous oxide fed into the transformation process that is actually transformed shall be estimated considering yield calculations or quantities of unreacted fluorinated GHGs or nitrous oxide permanently removed from the process and recovered, destroyed, or emitted.

(e) The mass of fluorinated GHG or nitrous oxide sent to another facility for transformation shall be measured using flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of one percent of full scale or better.

(f) The mass of fluorinated GHG sent to another facility for destruction shall be measured using flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of one percent of full scale or better. If the measured mass includes more than trace concentrations of materials other than the fluorinated GHG, the concentration of the fluorinated GHG shall be estimated considering current or previous representative concentration measurements and other relevant process information. This concentration (mass fraction) shall be multiplied by the mass measurement to obtain the mass of the fluorinated GHG sent to another facility for destruction.

(g) You must estimate the share of the mass of fluorinated GHGs in paragraph (f) of this section that is comprised of fluorinated GHGs that are not included in the mass produced in § 98.413(a) because they are removed from the production process as by-products or other wastes.

(h) You must measure the mass of each fluorinated GHG that is fed into the destruction device and that was previously produced as defined at § 98.410(b). Such fluorinated GHGs include but are not limited to quantities that are shipped to the facility by another facility for destruction and quantities that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore destroyed. You must use flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of one percent of full scale or better. If the measured mass includes more than trace concentrations of materials other than the fluorinated GHG being destroyed, you must estimate the concentrations of the fluorinated GHG being destroyed considering current or previous representative concentration measurements and other relevant process information. You must multiply this concentration (mass fraction) by the mass measurement to obtain the mass of the fluorinated GHG fed into the destruction device.

(i) Very small quantities of fluorinated GHGs that are difficult to measure because they are entrained in other media such as destroyed filters and destroyed sample containers are exempt from paragraphs (f) and (h) of this section.

(j) [Reserved]

(k) For purposes of Equation OO–4 of this subpart, the destruction efficiency can be equated to the destruction efficiency determined during a previous performance test of the destruction device or, if no performance test has been done, the destruction efficiency provided by the manufacturer of the destruction device.

(l) In their estimates of the mass of fluorinated GHGs destroyed, fluorinated GHG production facilities that destroy fluorinated GHGs shall account for any temporary reductions in the destruction efficiency that result from any startups, shutdowns, or malfunctions of the destruction device, including departures from the operating conditions defined in state or local permitting requirements and/or oxidizer manufacturer specifications.

(m) Calibrate all flow meters, weigh scales, and combinations of volumetric and density measures that are used to measure or calculate quantities that are to be reported under this subpart

prior to the first year for which GHG emissions are reported under this part. Calibrations performed prior to the effective date of this rule satisfy this requirement. Recalibrate all flow meters, weigh scales, and combinations of volumetric and density measures at the minimum frequency specified by the manufacturer. Use NIST-traceable standards and suitable methods published by a consensus standards organization (e.g., ASTM, ASME, ISO, or others).

(n) If the mass coming out of the production process includes more than one fluorinated GHG, you shall measure the concentrations of all of the fluorinated GHGs, other than low-concentration constituents, as follows:

(1) *Analytical Methods*. Use a quality-assured analytical measurement technology capable of detecting the analyte of interest at the concentration of interest and use a procedure validated with the analyte of interest at the concentration of interest. Where standards for the analyte are not available, a chemically similar surrogate may be used. Acceptable analytical measurement technologies include but are not limited to gas chromatography (GC) with an appropriate detector, infrared (IR), fourier transform infrared (FTIR), and nuclear magnetic resonance (NMR). Acceptable methods include EPA Method 18 in appendix A–1 of 40 CFR part 60; EPA Method 320 in appendix A of 40 CFR part 63; the Protocol for Measuring Destruction or Removal Efficiency (DRE) of Fluorinated Greenhouse Gas Abatement Equipment in Electronics Manufacturing, Version 1, EPA–430–R–10–003, (March 2010) (incorporated by reference, see § 98.7); ASTM D6348–03 Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy (incorporated by reference, see § 98.7); or other analytical methods validated using EPA Method 301 in appendix A of 40 CFR part 63 or some other scientifically sound validation protocol. The validation protocol may include analytical technology manufacturer specifications or recommendations.

(2) *Documentation in GHG Monitoring Plan*. Describe the analytical method(s) used under paragraph (n)(1) of this section in the site GHG Monitoring Plan as required under § 98.3(g)(5). At a minimum, include in the description of the method a description of the analytical measurement equipment and procedures, quantitative estimates of the method's accuracy and precision for the analytes of interest at the concentrations of interest, as well as a description of how these accuracies and precisions were estimated, including the validation protocol used.

(3) *Frequency of measurement*. Perform the measurements at least once by February 15, 2011 if the fluorinated GHG product is being produced on December 17, 2010. Perform the measurements within 60 days of commencing production of any fluorinated GHG product that was not being produced on December 17, 2010. Repeat the measurements if an operational or process change occurs that could change the identities or significantly change the concentrations of the fluorinated GHG constituents of the fluorinated GHG product. Complete the repeat measurements within 60 days of the operational or process change.

(4) *Measure all product grades*. Where a fluorinated GHG is produced at more than one purity level (*e.g.*, pharmaceutical grade and refrigerant grade), perform the measurements for each purity level.

(5) *Number of samples*. Analyze a minimum of three samples of the fluorinated GHG product that have been drawn under conditions that are representative of the process producing the fluorinated GHG product. If the relative standard deviation of the measured concentrations of any of the fluorinated GHG constituents (other than low-concentration constituents) is greater than or equal to 15 percent, draw and analyze enough additional samples to achieve a total of at least six samples of the fluorinated GHG product.

(o) All analytical equipment used to determine the concentration of fluorinated GHGs, including but not limited to gas chromatographs and associated detectors, IR, FTIR and NMR devices, shall be calibrated at a frequency needed to support the type of

analysis specified in the site GHG Monitoring Plan as required under §§ 98.414(n) and 98.3(g)(5) of this part. Quality assurance samples at the concentrations of concern shall be used for the calibration. Such quality assurance samples shall consist of or be prepared from certified standards of the analytes of concern where available; if not available, calibration shall be performed by a method specified in the GHG Monitoring Plan.

(p) Isolated intermediates that are produced and transformed at the same facility are exempt from the monitoring requirements of this section.

(q) Low-concentration constituents are exempt from the monitoring and QA/QC requirements of this section.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79167, Dec. 17, 2010]

§ 98.415 Procedures for estimating missing data.

(a) A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable (e.g., if a meter malfunctions), a substitute data value for the missing parameter shall be used in the calculations, according to paragraph (b) of this section.

(b) For each missing value of the mass produced, fed into the production process (for used material being reclaimed), fed into the transformation process, fed into destruction devices, sent to another facility for transformation, or sent to another facility for destruction, the substitute value of that parameter shall be a secondary mass measurement where such a measurement is available. For example, if the mass produced is usually measured with a flowmeter at the inlet to the day tank and that flowmeter fails to meet an accuracy or precision test, malfunctions, or is rendered inoperable, then the mass produced may be estimated by calculating the change in volume in the day tank and multiplying it by the density of the product. Where a secondary mass measurement is not available, the substitute value of the parameter shall be an estimate based on a related parameter. For example, if a flowmeter measuring the mass fed into a destruction device is rendered inoperable, then the mass fed into the destruction device may be estimated using the production rate and the previously observed relationship between the production rate and the mass flow rate into the destruction device.

§ 98.416 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the following information:

(a) Each fluorinated GHG or nitrous oxide production facility shall report the following information:

(1) Mass in metric tons of each fluorinated GHG or nitrous oxide produced at that facility by process, except for amounts that are captured solely to be shipped off site for destruction.

(2) Mass in metric tons of each fluorinated GHG or nitrous oxide transformed at that facility, by process.

(3) Mass in metric tons of each fluorinated GHG that is destroyed at that facility and that was previously produced as defined at § 98.410(b). Quantities to be reported under this paragraph (a)(3) of this section include but are not limited to quantities that are shipped to the facility by another facility for destruction and quantities that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore destroyed.

(4) [Reserved]

(5) Total mass in metric tons of each fluorinated GHG or nitrous oxide sent to another facility for transformation.

(6) Total mass in metric tons of each fluorinated GHG sent to another facility for destruction, except fluorinated GHGs that are not included in the mass produced in § 98.413(a) because they are removed from the production process as by-products or other wastes. Quantities to be reported under this paragraph (a)(6) could include, for example, fluorinated GHGs that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore sent to another facility for destruction.

(7) Total mass in metric tons of each fluorinated GHG that is sent to another facility for destruction and that is not included in the mass produced in § 98.413(a) because it is removed from the production process as a byproduct or other waste.

(8)–(9) [Reserved]

(10) Mass in metric tons of any fluorinated GHG or nitrous oxide fed into the transformation process, by process.

(11) Mass in metric tons of each fluorinated GHG that is fed into the destruction device and that was previously produced as defined at § 98.410(b). Quantities to be reported under this paragraph (a)(11) of this section include but are not limited to quantities that are shipped to the facility by another facility for destruction and quantities that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore destroyed.

(12) Mass in metric tons of each fluorinated GHG or nitrous oxide that is measured coming out of the production process, by process.

(13) Mass in metric tons of each used fluorinated GHGs or nitrous oxide added back into the production process (e.g., for reclamation), including returned heels in containers that are weighed to measure the mass in § 98.414(a), by process.

(14) Names and addresses of facilities to which any nitrous oxide or fluorinated GHGs were sent for transformation, and the quantities (metric tons) of nitrous oxide and of each fluorinated GHG that were sent to each for transformation.

(15) Names and addresses of facilities to which any fluorinated GHGs were sent for destruction, and the quantities (metric tons) of each fluorinated GHG that were sent to each for destruction.

(16) Where missing data have been estimated pursuant to § 98.415, the reason the data were missing, the length of time the data were missing, the method used to estimate the missing data, and the estimates of those data.

(b) By March 31, 2011 or within 60 days of commencing fluorinated GHG destruction, whichever is later, a fluorinated GHG production facility or importer that destroys fluorinated GHGs shall submit a one-time report containing the following information for each destruction process:

(1) Destruction efficiency (DE).

(2) Methods used to determine the destruction efficiency.

(3) Methods used to record the mass of fluorinated GHG destroyed.

(4) Chemical identity of the fluorinated GHG(s) used in the performance test conducted to determine DE.

(5) Name of all applicable federal or state regulations that may apply to the destruction process.

(6) If any process changes affect unit destruction efficiency or the methods used to record mass of fluorinated GHG destroyed, then a revised report must be submitted to reflect the changes. The revised report must be submitted to EPA within 60 days of the change.

(c) Each bulk importer of fluorinated GHGs or nitrous oxide shall submit an annual report that summarizes its imports at the corporate level, except for shipments including less than twenty-five kilograms of fluorinated GHGs or nitrous oxide, transshipments, and heels that meet the conditions set forth at § 98.417(e). The report shall contain the following information for each import:

(1) Total mass in metric tons of nitrous oxide and each fluorinated GHG imported in bulk, including each fluorinated GHG constituent of the fluorinated GHG product that makes up between 0.5 percent and 100 percent of the product by mass.

(2) Total mass in metric tons of nitrous oxide and each fluorinated GHG imported in bulk and sold or transferred to persons other than the importer for use in processes resulting in the transformation or destruction of the chemical.

(3) Date on which the fluorinated GHGs or nitrous oxide were imported.

(4) Port of entry through which the fluorinated GHGs or nitrous oxide passed.

(5) Country from which the imported fluorinated GHGs or nitrous oxide were imported.

(6) Commodity code of the fluorinated GHGs or nitrous oxide shipped.

(7) Importer number for the shipment.

(8) Total mass in metric tons of each fluorinated GHG destroyed by the importer.

(9) If applicable, the names and addresses of the persons and facilities to which the nitrous oxide or fluorinated GHGs were sold or transferred for transformation, and the quantities (metric tons) of nitrous oxide and of each fluorinated GHG that were sold or transferred to each facility for transformation.

(10) If applicable, the names and addresses of the persons and facilities to which the fluorinated GHGs were sold or transferred for destruction, and the quantities (metric tons) of each fluorinated GHG that were sold or transferred to each facility for destruction.

(d) Each bulk exporter of fluorinated GHGs or nitrous oxide shall submit an annual report that summarizes its exports at the corporate level, except for shipments including less than twenty-five kilograms of fluorinated GHGs or nitrous oxide, transshipments, and heels. The report shall contain the following information for each export:

(1) Total mass in metric tons of nitrous oxide and each fluorinated GHG exported in bulk.

(2) Names and addresses of the exporter and the recipient of the exports.

(3) Exporter's Employee Identification Number.

(4) Commodity code of the fluorinated GHGs and nitrous oxide shipped.

(5) Date on which, and the port from which, fluorinated GHGs and nitrous oxide were exported from the United States or its territories.

(6) Country to which the fluorinated GHGs or nitrous oxide were exported.

(e) By March 31, 2011, or within 60 days of commencing fluorinated GHG production, whichever is later, a fluorinated GHG production facility shall submit a one-time report describing the following information:

(1) The method(s) by which the producer in practice measures the mass of fluorinated GHGs produced, including the instrumentation used (Coriolis flowmeter, other flowmeter, weigh scale, etc.) and its accuracy and precision.

(2) The method(s) by which the producer in practice estimates the mass of fluorinated GHGs fed into the transformation process, including the instrumentation used (Coriolis flowmeter, other flowmeter, weigh scale, etc.) and its accuracy and precision.

(3) The method(s) by which the producer in practice estimates the fraction of fluorinated GHGs fed into the transformation process that is actually transformed, and the estimated precision and accuracy of this estimate.

(4) The method(s) by which the producer in practice estimates the masses of fluorinated GHGs fed into the destruction device, including the method(s) used to estimate the concentration of the fluorinated GHGs in the destroyed material, and the estimated precision and accuracy of this estimate.

(5) The estimated percent efficiency of each production process for the fluorinated GHG produced.

(f) By March 31, 2011, all fluorinated GHG production facilities shall submit a one-time report that includes the concentration of each fluorinated GHG constituent in each fluorinated GHG product as measured under § 98.414(n). If the facility commences production of a fluorinated GHG product that was not included in the initial report or performs a repeat measurement under § 98.414(n) that shows that the identities or concentrations of the fluorinated GHG constituents of a fluorinated GHG product have changed, then the new or changed concentrations, as well as the date of the change, must be reflected in a revision to the report. The revised report must be submitted to EPA by the March 31st that immediately follows the measurement under § 98.414(n).

(g) Isolated intermediates that are produced and transformed at the same facility are exempt from the reporting requirements of this section.

(h) Low-concentration constituents are exempt from the reporting requirements of this section.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79168, Dec. 17, 2010; 76 FR 73905, Nov. 29, 2011]

§ 98.417 Records that must be retained.

(a) In addition to the data required by § 98.3(g), the fluorinated GHG production facility shall retain the following records:

(1) Dated records of the data used to estimate the data reported under § 98.416.

(2) Records documenting the initial and periodic calibration of the analytical equipment (including but not limited to GC, IR, FTIR, or NMR), weigh scales, flowmeters, and volumetric and density measures used to measure the quantities reported under this subpart, including the manufacturer directions or industry standards used for calibration pursuant to § 98.414(m) and (o).

(3) Dated records of the total mass in metric tons of each reactant fed into the F–GHG or nitrous oxide production process, by process.

(4) Dated records of the total mass in metric tons of the reactants, by-products, and other wastes permanently removed from the F–GHG or nitrous oxide production process, by process.

(b) In addition to the data required by paragraph (a) of this section, any fluorinated GHG production facility that destroys fluorinated GHGs shall keep records of test reports and other information documenting the facility's one-time destruction efficiency report in § 98.416(b).

(c) In addition to the data required by § 98.3(g), the bulk importer shall retain the following records substantiating each of the imports that they report:

(1) A copy of the bill of lading for the import.

(2) The invoice for the import.

(3) The U.S. Customs entry form.

(d) In addition to the data required by § 98.3(g), the bulk exporter shall retain the following records substantiating each of the exports that they report:

(1) A copy of the bill of lading for the export and

(2) The invoice for the export.

(e) Every person who imports a container with a heel that is not reported under § 98.416(c) shall keep records of the amount brought into the United States that document that the residual amount in each shipment is less than 10 percent of the volume of the container and will:

(1) Remain in the container and be included in a future shipment.

(2) Be recovered and transformed.

(3) Be recovered and destroyed.

(4) Be recovered and included in a future shipment.

(f) Isolated intermediates that are produced and transformed at the same facility are exempt from the recordkeeping requirements of this section.

(g) Low-concentration constituents are exempt from the recordkeeping requirements of this section.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79168, Dec. 17, 2010; 76 FR 73905, Nov. 29, 2011]

§ 98.418 Definitions.

Except as provided below, all of the terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part. If a conflict exists between a definition provided in this subpart and a definition provided in subpart A, the definition in this subpart shall take precedence for the reporting requirements in this subpart.

Isolated intermediate means a product of a process that is stored before subsequent processing. An isolated intermediate is usually a product of chemical synthesis. Storage of an isolated intermediate marks the end of a process. Storage occurs at any time the intermediate is placed in equipment used solely for storage.

Low-concentration constituent means, for purposes of fluorinated GHG production and export, a fluorinated GHG constituent of a fluorinated GHG product that occurs in the product in concentrations below 0.1 percent by mass. For purposes of fluorinated GHG import, low-concentration constituent means a fluorinated GHG constituent of a fluorinated GHG product that occurs in the product in concentrations below 0.5 percent by mass. Low-concentration constituents do not include fluorinated GHGs that are deliberately combined with the product (*e.g.*, to affect the performance characteristics of the product).

[75 FR 79169, Dec. 17, 2010]

Subpart PP—Suppliers of Carbon Dioxide

§ 98.420 Definition of the source category.

(a) The carbon dioxide (CO_2) supplier source category consists of the following:

(1) Facilities with production process units that capture a CO_2 stream for purposes of supplying CO_2 for commercial applications or that capture and maintain custody of a CO_2 stream in order to sequester or otherwise inject it underground. Capture refers to the initial separation and removal of CO_2 from a manufacturing process or any other process.

(2) Facilities with CO_2 production wells that extract or produce a CO_2 stream for purposes of supplying CO_2 for commercial applications or that extract and maintain custody of a CO_2 stream in order to sequester or otherwise inject it underground.

(3) Importers or exporters of bulk CO_2.

(b) This source category is focused on upstream supply. It does not cover:

(1) Storage of CO_2 above ground or in geologic formations.

(2) Use of CO_2 in enhanced oil and gas recovery.

(3) Transportation or distribution of CO_2.

(4) Purification, compression, or processing of CO_2.

(5) On-site use of CO_2 captured on site.

(c) This source category does not include CO_2 imported or exported in equipment, such as fire extinguishers.

§ 98.421 Reporting threshold.

Any supplier of CO_2 who meets the requirements of § 98.2(a)(4) of subpart A of this part must report the mass of CO_2 captured, extracted, imported, or exported.

§ 98.422 GHGs to report.

(a) Mass of CO_2 captured from production process units.

(b) Mass of CO_2 extracted from CO_2 production wells.

(c) Mass of CO_2 imported.

(d) Mass of CO_2 exported.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79169, Dec. 17, 2010]

§ 98.423 Calculating CO_2 supply.

(a) Except as allowed in paragraph (b) of this section, calculate the annual mass of CO_2 captured, extracted, imported, or exported through each flow meter in accordance with the procedures specified in either paragraph (a)(1) or (a)(2) of this section. If multiple flow meters are used, you shall calculate the annual mass of CO_2 for all flow meters according to the procedures specified in paragraph (a)(3) of this section.

(1) For each mass flow meter, you shall calculate quarterly the mass of CO_2 in a CO_2 stream in metric tons by multiplying the mass flow by the composition data, according to Equation PP–1 of this section. Mass flow and composition data measurements shall be made in accordance with § 98.424 of this subpart.

$$CO_{2,u} = \sum_{p=1}^{4} Q_{p,u} * C_{CO_{2,p,u}} \qquad \text{(Eq. PP-1)}$$

Where:

$CO_{2,u}$ = Annual mass of CO_2 (metric tons) through flow meter u.

$C_{CO_2,p,u}$ = Quarterly CO_2 concentration measurement in flow for flow meter u in quarter p (wt. %CO_2).

$Q_{p,u}$ = Quarterly mass flow rate measurement for flow meter u in quarter p (metric tons).

p = Quarter of the year.

u = Flow meter.

(2) For each volumetric flow meter, you shall calculate quarterly the mass of CO_2 in a CO_2 stream in metric tons by multiplying the volumetric flow by

the concentration and density data, according to Equation PP–2 of this section. Volumetric flow, concentration and density data measurements shall be made in accordance with § 98.424 of this section.

$$CO_{2,u} = \sum_{p=1}^{4} Q_p * D_p * C_{CO_{2,p}} \qquad \text{(Eq. PP-2)}$$

Where:

$CO_{2,u}$ = Annual mass of CO_2 (metric tons) through flow meter u.

$C_{CO2,p}$ = Quarterly CO_2 concentration measurement in flow for flow meter u in quarter p (measured as either volume % CO_2 or weight % CO_2).

Q_p = Quarterly volumetric flow rate measurement for flow meter u in quarter p (standard cubic meters).

D_p = Density of CO_2 in quarter p (metric tons CO_2 per standard cubic meter) for flow meter u if $C_{CO2,p}$ is measured as volume % CO_2, or density of the whole CO_2 stream for flow meter u (metric tons per standard cubic meter) if $C_{CO2,p}$ is measured as weight % CO_2.

p = Quarter of the year.

u = Flow meter.

(3) To aggregate data, use either Equation PP–3a or PP–3b in this paragraph, as appropriate.

(i) For facilities with production process units or production wells that capture or extract a CO_2 stream and either measure it after segregation or do not segregate the flow, calculate the total CO_2 supplied in accordance with Equation PP–3a in paragraph (a)(3).

$$CO_2 = \sum_{p=1}^{U} CO_{2,u} \qquad \text{(Eq. PP-3a)}$$

where:

CO_2 = Total annual mass of CO_2 (metric tons).

$CO_{2,u}$ = Annual mass of CO_2 (metric tons) through flow meter u.

u = Flow meter.

(ii) For facilities with production process units that capture a CO_2 stream and measure it ahead of segregation, calculate the total CO_2 supplied in accordance with Equation PP–3b.

$$CO_2 = \sum_{p=1}^{U} CO_{2,u} - \sum_{p=1}^{V} CO_{2,v} \qquad \text{(Eq. PP-3b)}$$

where:

CO_2 = Total annual mass of CO_2 (metric tons).

$CO_{2,u}$ = Annual mass of CO_2 (metric tons) through main flow meter u.

$CO_{2,v}$ = Annual mass of CO_2 (metric tons) through subsequent flow meter v for use on site.

u = Main flow meter.

v = Subsequent flow meter.

(b) As an alternative to paragraphs (a)(1) through (3) of this section for CO_2 that is supplied in containers, calculate the annual mass of CO_2 supplied in containers delivered by each CO_2 stream in accordance with the procedures specified in either paragraph (b)(1) or (b)(2) of this section. If multiple CO_2 streams are used to deliver CO_2 to containers, you shall calculate the annual mass of CO_2 supplied in containers delivered by all CO_2 streams according to the procedures specified in paragraph (b)(3) of this section.

(1) For each CO_2 stream that delivers CO_2 to containers, for which mass is measured, you shall calculate CO_2 supply in containers using Equation PP–1 of this section.

where:

$CO_{2,u}$ = Annual mass of CO_2 (metric tons) supplied in containers delivered by CO_2 stream u.

$C_{CO2,p,u}$ = Quarterly CO_2 concentration measurement of CO_2 stream u that delivers CO_2 to containers in quarter p (wt. %CO_2).

$Q_{p,u}$ = Quarterly mass of contents supplied in all containers delivered by CO_2 stream u in quarter p (metric tons).

p = Quarter of the year.

u = CO_2 stream that delivers to containers.

(2) For each CO_2 stream that delivers to containers, for which volume is measured, you shall calculate CO_2 supply in containers using Equation PP–2 of this section.

where:

$CO_{2,u}$ = Annual mass of CO_2 (metric tons) supplied in containers delivered by CO_2 stream u.

$C_{CO2,p}$ = Quarterly CO_2 concentration measurement of CO_2 stream u that delivers CO_2 to containers in quarter p (measured as either volume % CO_2 or weight % CO_2).

Q_p = Quarterly volume of contents supplied in all containers delivered by CO_2 stream u in quarter p (standard cubic meters).

D_p = Quarterly CO_2 density determination for CO_2 stream u in quarter p (metric tons per standard cubic meter) if $CO_{2,p}$ is measured as volume % CO_2, or density of CO_2 stream u (metric tons per standard cubic meter) if $CO_{2,p}$ is measured as weight % CO_2.

p = Quarter of the year.

u = CO_2 stream that delivers to containers.

(3) To aggregate data, sum the mass of CO_2 supplied in containers delivered by all CO_2 streams in accordance with Equation PP–3a of this section.

where:

CO_2 = Annual mass of CO_2 (metric tons) supplied in containers delivered by all CO_2 streams.

$CO_{2,u}$ = Annual mass of CO_2 (metric tons) supplied in containers delivered by CO_2 stream u.

u = CO_2 stream that delivers to containers.

(c) Importers or exporters that import or export CO_2 in containers shall calculate the total mass of CO_2 imported or exported in metric tons based on summing the mass in each CO_2 container using weigh bills, scales, or load cells according to Equation PP–4 of this section.

$$CO_2 = \sum_{p=1}^{I} Q \qquad \text{(Eq. PP-4)}$$

where:

CO_2 = Annual mass of CO_2 (metric tons).

Q = Annual mass in all CO_2 containers imported or exported during the reporting year (metric tons).

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79169, Dec. 17, 2010; 78 FR 71977, Nov. 29, 2013]

§ 98.424 Monitoring and QA/QC requirements.

(a) *Determination of quantity.* (1) Reporters following the procedures in § 98.423(a) shall determine quantity using a flow meter or meters located in accordance with this paragraph.

(i) If the CO_2 stream is segregated such that only a portion is captured for commercial application or for injection, you must locate the flow meter according to the following:

(A) For reporters following the procedures in § 98.423(a)(3)(i), you must locate the flow meter(s) after the point of segregation.

(B) For reporters following the procedures in paragraph (a)(3)(ii) of § 98.423, you must locate the main flow meter(s) on the captured CO_2 stream(s) prior to the point of segregation and the subsequent flow meter(s) on the CO_2 stream(s) for on-site use after the point of segregation. You may only follow the procedures in paragraph (a)(3)(ii) of § 98.423 if the CO_2 stream(s) for on-site use is/are the only diversion(s) from the main, captured CO_2 stream(s) after the main flow meter location(s).

(ii) Reporters that have a mass flow meter or volumetric flow meter installed to measure the flow of a CO_2 stream that meets the requirements of paragraph (a)(1)(i) of this section shall base calculations in § 98.423 of this subpart on the installed mass flow or volumetric flow meters.

(iii) Reporters that do not have a mass flow meter or volumetric flow meter installed to measure the flow of the CO_2 stream that meets the requirements of paragraph (a)(1)(i) of this section shall base calculations in § 98.423 of this subpart on the flow of gas transferred off site using a mass flow meter or a volumetric flow meter located at the point of off-site transfer.

(2) Reporters following the procedures in paragraph (b) of § 98.423 shall determine quantity in accordance with this paragraph.

(i) Reporters that supply CO_2 in containers using weigh bills, scales, or load cells shall measure the mass of contents of each CO_2 container to which the CO_2 stream is delivered, sum the mass of contents supplied in all containers to which the CO_2 stream is delivered during each quarter, sample the CO_2 stream delivering CO_2 to containers on a quarterly basis to determine the composition of the CO_2 stream, and apply Equation PP–1.

(ii) Reporters that supply CO_2 in containers using loaded container volumes shall measure the volume of contents of each CO_2 container to which the CO_2 stream is delivered, sum the volume of contents supplied in all containers to which the CO_2 stream is delivered during each quarter, sample the CO_2 stream on a quarterly basis to determine the composition of the CO_2 stream, determine the density quarterly, and apply Equation PP–2.

(3) Importers or exporters that import or export CO_2 in containers shall measure the mass in each CO_2 container using weigh bills, scales, or load cells and sum the mass in all containers imported or exported during the reporting year.

(4) All flow meters, scales, and load cells used to measure quantities that are reported in § 98.423 of this subpart shall be operated and calibrated according to the following procedure:

(i) You shall use an appropriate standard method published by a consensus-based standards organization if such a method exists. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB).

(ii) Where no appropriate standard method developed by a consensus-based standards organization exists, you shall follow industry standard practices.

(iii) You must ensure that any flow meter calibrations performed are NIST traceable.

(5) Reporters using Equation PP–2 of this subpart and measuring CO_2 concentration as weight % CO_2 shall determine the density of the CO_2 stream on a quarterly basis in order to calculate the mass of the CO_2 stream according to one of the following procedures:

(i) You may use a method published by a consensus-based standards organization. Consensus-based standards organizations include, but are not limited to, the following: ASTM International (100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), the American National Standards Institute (ANSI, 1819 L Street, NW., 6th floor, Washington, DC 20036, (202) 293–8020, *http://www.ansi.org*), the American Gas Association (AGA, 400 North Capitol Street, NW., 4th Floor, Washington, DC 20001, (202) 824–7000, *http://www.aga.org*), the American Society of Mechanical Engineers (ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, *http://www.asme.org*), the American Petroleum Institute (API, 1220 L Street, NW., Washington, DC 20005–4070, (202) 682–8000, *http://www.api.org*), and the North American Energy Standards Board (NAESB, 801 Travis Street, Suite 1675, Houston, TX 77002, (713) 356–0060, *http://www.api.org*). The method(s) used shall be documented in the Monitoring Plan required under § 98.3(g)(5).

(ii) You may follow an industry standard method.

(b) *Determination of concentration.* (1) Reporters using Equation PP–1 or PP–2 of this subpart shall sample the CO_2 stream on a quarterly basis to determine the composition of the CO_2 stream.

(2) Methods to measure the composition of the CO_2 stream must conform to applicable chemical analytical standards. Acceptable methods include, but are not limited to, the U.S. Food and Drug Administration food-grade specifications for CO_2 (*see* 21 CFR 184.1240) and ASTM standard E1747–95 (Reapproved 2005) Standard Guide for Purity of Carbon Dioxide Used in Supercritical Fluid Applications (ASTM International, 100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*).

(c) You shall convert the density of the CO_2 stream(s) and all measured volumes of carbon dioxide to the following standard industry temperature and pressure conditions: Standard cubic meters at a temperature of 60 degrees Fahrenheit and at an absolute pressure of 1 atmosphere. If you apply the density value for CO_2 at standard conditions, you must use 0.001868 metric tons per standard cubic meter.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79170, Dec. 17, 2010]

§ 98.425 Procedures for estimating missing data.

(a) Whenever the quality assurance procedures in § 98.424(a)(1) of this subpart cannot be followed to measure quarterly mass flow or volumetric flow of CO_2, the most appropriate of the following missing data procedures shall be followed:

(1) A quarterly CO_2 mass flow or volumetric flow value that is missing may be substituted with a quarterly value measured during another quarter of the current reporting year.

(2) A quarterly CO_2 mass flow or volumetric flow value that is missing may be substituted with a quarterly value measured during the same quarter from the past reporting year.

(3) If a mass or volumetric flow meter is installed to measure the CO_2 stream, you may substitute data from a mass or volumetric flow meter measuring the CO_2 stream transferred for any period during which the installed meter is inoperable.

(4) The mass or volumetric flow used for purposes of product tracking and billing according to the reporter's established procedures may be substituted for any period during which measurement equipment is inoperable.

(b) Whenever the quality assurance procedures in § 98.424(b) of this subpart cannot be followed to determine concentration of the CO_2 stream, the most appropriate of the following missing data procudures shall be followed:

(1) A quarterly concentration value that is missing may be substituted with a quarterly value measured during another quarter of the current reporting year.

(2) A quarterly concentration value that is missing may be substituted with a quarterly value measured during the same quarter from the previous reporting year.

(3) The concentration used for purposes of product tracking and billing according to the reporter's established procedures may be substituted for any quarterly value.

(c) Missing data on density of the CO_2 stream shall be substituted with quarterly or annual average values from the previous calendar year.

(d) Whenever the quality assurance procedures in § 98.424(a)(2) of this subpart cannot be followed to measure quarterly quantity of CO_2 in containers, the most appropriate of the following missing data procedures shall be followed:

(1) A quarterly quantity of CO_2 in containers that is missing may be substituted with a quarterly value measured during another representative quarter of the current reporting year.

(2) A quarterly quantity of CO_2 in containers that is missing may be substituted with a quarterly value measured during the same quarter from the past reporting year.

(3) The quarterly quantity of CO_2 in containers recorded for purposes of product tracking and billing according to the reporter's established procedures

may be substituted for any period during which measurement equipment is inoperable.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79171, Dec. 17, 2010]

§ 98.426 Data reporting requirements.

In addition to the information required by § 98.3(c) of subpart A of this part, the annual report shall contain the following information, as applicable:

(a) If you use Equation PP–1 of this subpart, report the following information for each mass flow meter or CO_2 stream that delivers CO_2 to containers:

(1) Annual mass in metric tons of CO_2.

(2) Quarterly mass in metric tons of CO_2.

(3) Quarterly concentration of the CO_2 stream.

(4) The standard used to measure CO_2 concentration.

(5) The location of the flow meter in your process chain in relation to the points of CO_2 stream capture, dehydration, compression, and other processing.

(b) If you use Equation PP–2 of this subpart, report the following information for each volumetric flow meter or CO_2 stream that delivers CO_2 to containers:

(1) Annual mass in metric tons of CO_2.

(2) Quarterly volume in standard cubic meters of CO_2.

(3) Quarterly concentration of the CO_2 stream in volume or weight percent.

(4) Report density as follows:

(i) Quarterly density of the CO_2 stream in metric tons per standard cubic meter if you report the concentration of the CO_2 stream in paragraph (b)(3) of this section in weight percent.

(ii) Quarterly density of CO_2 in metric tons per standard cubic meter if you report the concentration of the CO_2 stream in paragraph (b)(3) of this section in volume percent.

(5) The method used to measure density.

(6) The standard used to measure CO_2 concentration.

(7) The location of the flow meter in your process chain in relation to the points of CO_2 stream capture, dehydration, compression, and other processing.

(c) For the aggregated annual mass of CO_2 emissions calculated using Equation PP–3a or PP–3b, report the following:

(1) If you use Equation PP–3a of this subpart, report the annual CO_2 mass in metric tons from all flow meters and CO_2 streams that deliver CO_2 to containers.

(2) If you use Equation PP–3b of this subpart, report:

(i) The total annual CO_2 mass through main flow meter(s) in metric tons.

(ii) The total annual CO_2 mass through subsequent flow meter(s) in metric tons.

(iii) The total annual CO_2 mass supplied in metric tons.

(iv) The location of each flow meter in relation to the point of segregation.

(d) If you use Equation PP–4 of this subpart, report at the corporate level the annual mass of CO_2 in metric tons in all CO_2 containers that are imported or exported.

(e) Each reporter shall report the following information:

(1) The type of equipment used to measure the total flow of the CO_2 stream or the total mass or volume in CO_2 containers.

(2) The standard used to operate and calibrate the equipment reported in (e)(1) of this section.

(3) The number of days in the reporting year for which substitute data procedures were used for the following purpose:

(i) To measure quantity.

(ii) To measure concentration.

(iii) To measure density.

(f) Report the aggregated annual quantity of CO_2 in metric tons that is transferred to each of the following end use applications, if known:

(1) Food and beverage.

(2) Industrial and municipal water/wastewater treatment.

(3) Metal fabrication, including welding and cutting.

(4) Greenhouse uses for plant growth.

(5) Fumigants (e.g., grain storage) and herbicides.

(6) Pulp and paper.

(7) Cleaning and solvent use.

(8) Fire fighting.

(9) Transportation and storage of explosives.

(10) Injection of carbon dioxide for enhanced oil and natural gas recovery that is covered by subpart UU of this part.

(11) Geologic sequestration of carbon dioxide that is covered by subpart RR of this part.

(12) Research and development.

(13) Other.

(g) Each production process unit that captures a CO_2 stream for purposes of supplying CO_2 for commercial applications or in order to sequester or otherwise inject it underground when custody of the CO_2 is maintained shall report the percentage of that stream, if any, that is biomass-based during the reporting year.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79171, Dec. 17, 2010; 78 FR 71977, Nov. 29, 2013]

§ 98.427 Records that must be retained.

In addition to the records required by § 98.3(g) of subpart A of this part, you must retain the records specified in paragraphs (a) through (c) of this section, as applicable.

(a) The owner or operator of a facility containing production process units must retain quarterly records of captured or transferred CO_2 streams and composition.

(b) The owner or operator of a CO_2 production well facility must maintain quarterly records of the mass flow or volumetric flow of the extracted or transferred CO_2 stream and concentration and density if volumetric flow meters are used.

(c) Importers or exporters of CO_2 must retain annual records of the mass flow, volumetric flow, and mass of CO_2 imported or exported.

§ 98.428 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Subpart QQ—Importers and Exporters of Fluorinated Greenhouse Gases Contained in Pre-Charged Equipment or Closed-Cell Foams

SOURCE: 75 FR 74856, Dec. 1, 2010, unless otherwise noted.

§ 98.430 Definition of the source category.

(a) The source category, importers and exporters of fluorinated GHGs contained in pre-charged equipment or closed-cell foams, consists of any entity that imports or exports pre-charged equipment that contains a fluorinated GHG, and any entity that imports or exports closed-cell foams that contain a fluorinated GHG.

§ 98.431 Reporting threshold.

Any importer or exporter of fluorinated GHGs contained in pre-charged equipment or closed-cell foams who meets the requirements of § 98.2(a)(4) must report each fluorinated GHG contained in the imported or exported pre-charged equipment or closed-cell foams.

§ 98.432 GHGs to report.

You must report the mass of each fluorinated GHG contained in pre-charged equipment or closed-cell foams that you import or export during the calendar year. For imports and exports of closed-cell foams where you do not know the identity and mass of the fluorinated GHG, you must report the mass of fluorinated GHG in CO_2e.

§ 98.433 Calculating GHG contained in pre-charged equipment or closed-cell foams.

(a) The total mass of each fluorinated GHG imported and exported inside equipment or foams must be estimated using Equation QQ–1 of this section:

$$I = \sum_t S_t * N_t * 0.001 \quad \text{(Eq. QQ-1)}$$

where:

I = Total mass of the fluorinated GHG imported or exported annually (metric tons).

t = Equipment/foam type containing the fluorinated GHG.

S_t = Mass of fluorinated GHG per unit of equipment type t or foam type t (charge per piece of equipment, kg) or density of fluorinated GHG in foam (charge per cubic foot of foam, kg per cubic foot).

N_t = Number of units of equipment type t or foam type t imported or exported annually (pieces of equipment or cubic feet of foam).

0.001 = Factor converting kg to metric tons.

(b) When the identity and mass of fluorinated GHGs in a closed-cell foam is unknown to the importer or exporter, the total mass in CO_2e for the fluorinated GHGs imported and exported inside closed-cell foams must be estimated using Equation QQ–2 of this section:

$$I = \sum_t S_t * N_t * 0.001 \quad \text{(Eq. QQ-2)}$$

where:

I = Total mass in CO_2e of the fluorinated GHGs imported or exported in close-cell foams annually (metric tons).

t = Equipment/foam type containing the fluorinated GHG.

S_t = Mass in CO_2e of the fluorinated GHGs per unit of equipment type t or foam type t (charge per piece of equipment, kg) or density of fluorinated GHG in foam (CO_2e per cubic foot of foam, kg CO_2e per cubic foot).

N_t = Number of units of equipment type t or foam type t imported or exported annually (pieces of equipment or cubic feet of foam).

0.001 = Factor converting kg to metric tons.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71978, Nov. 29, 2013]

§ 98.434 Monitoring and QA/QC requirements.

(a) For calendar year 2011 monitoring, you may follow the provisions of § 98.3(d)(1) through (d)(2) for best available monitoring methods rather than follow the monitoring requirements of this section. For purposes of this subpart, any reference in § 98.3(d)(1) through (d)(2) to the year 2010 means 2011, to March 31 means June 30, and to April 1 means July 1. Any reference to the effective date or date of promulgation in § 98.3(d)(1) through (d)(2) means February 28, 2011.

(b) The inputs to the annual submission must be reviewed against the import or export transaction records to ensure that the information submitted to EPA is being accurately transcribed as the correct chemical or blend in the correct pre-charged equipment or closed-cell foam in the correct quantities and units.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71978, Nov. 29, 2013]

§ 98.435 Procedures for estimating missing data.

Procedures for estimating missing data are not provided for importers and exporters of fluorinated GHGs contained in pre-charged equipment or closed-cell foams. A complete record of all measured parameters used in tracking fluorinated GHGs contained in pre-charged equipment or closed-cell foams is required.

§ 98.436 Data reporting requirements.

(a) Each importer of fluorinated GHGs contained in pre-charged equipment or closed-cell foams must submit an annual report that summarizes its imports at the corporate level, except for transshipments, as specified:

(1) Total mass in metric tons of each fluorinated GHG imported in pre-charged equipment or closed-cell foams.

(2) For each type of pre-charged equipment with a unique combination of charge size and charge type, the identity of the fluorinated GHG used as a refrigerant or electrical insulator, charge size (holding charge, if applicable), and number imported.

(3) For closed-cell foams that are imported inside of equipment, the identity of the fluorinated GHG contained in the foam, the mass of the fluorinated GHG contained in the foam

in each piece of equipment, and the number of pieces of equipment imported with each unique combination of mass and identity of fluorinated GHG within the closed-cell foams.

(4) For closed cell-foams that are not imported inside of equipment, the identity of the fluorinated GHG in the foam, the density of the fluorinated GHG in the foam (kg fluorinated GHG/cubic foot), and the volume of foam imported (cubic feet) for each type of closed-cell foam with a unique combination of fluorinated GHG density and identity.

(5) Dates on which the pre-charged equipment or closed-cell foams were imported.

(6) If the importer does not know the identity and mass of the fluorinated GHGs within the closed-cell foam, the importer must report the following:

(i) Total mass in metric tons of CO_2e of the fluorinated GHGs imported in closed-cell foams.

(ii) For closed-cell foams that are imported inside of equipment, the mass of the fluorinated GHGs in CO_2e contained in the foam in each piece of equipment and the number of pieces of equipment imported for each equipment type.

(iii) For closed-cell foams that are not imported inside of equipment, the density in CO_2e of the fluorinated GHGs in the foam (kg CO_2e/cubic foot) and the volume of foam imported (cubic feet) for each type of closed-cell foam.

(iv) Dates on which the closed-cell foams were imported.

(v) Name of the foam manufacturer for each type of closed-cell foam where the identity and mass of the fluorinated GHGs is unknown.

(vi) Certification that the importer was unable to obtain information on the identity and mass of the fluorinated GHGs within the closed-cell foam from the closed-cell foam manufacturer or manufacturers.

(b) Each exporter of fluorinated GHGs contained in pre-charged equipment or closed-cell foams must submit an annual report that summarizes its exports at the corporate level, except for transshipments, as specified:

(1) Total mass in metric tons of each fluorinated GHG exported in pre-charged equipment or closed-cell foams.

(2) For each type of pre-charged equipment with a unique combination of charge size and charge type, the identity of the fluorinated GHG used as a refrigerant or electrical insulator, charge size (including holding charge, if applicable), and number exported.

(3) For closed-cell foams that are exported inside of equipment, the identity of the fluorinated GHG contained in the foam in each piece of equipment, the mass of the fluorinated GHG contained in the foam in each piece of equipment, and the number of pieces of equipment exported with each unique combination of mass and identity of fluorinated GHG within the closed-cell foams.

(4) For closed-cell foams that are not exported inside of equipment, the identity of the fluorinated GHG in the foam, the density of the fluorinated GHG in the foam (kg fluorinated GHG/cubic foot), and the volume of foam exported (cubic feet) for each type of closed-cell foam with a unique combination of fluorinated GHG density and identity.

(5) Dates on which the pre-charged equipment or closed-cell foams were exported.

(6) If the exporter does not know the identity and mass of the fluorinated GHG within the closed-cell foam, the exporter must report the following:

(i) Total mass in metric tons of CO_2e of the fluorinated GHGs exported in closed-cell foams.

(ii) For closed-cell foams that are exported inside of equipment, the mass of the fluorinated GHGs in CO_2e contained in the foam in each piece of equipment and the number of pieces of equipment imported for each equipment type.

(iii) For closed-cell foams that are not exported inside of equipment, the density in CO_2e of the fluorinated GHGs in the foam (kg CO_2 e/cubic foot) and the volume of foam imported (cubic feet) for each type of closed-cell foam.

(iv) Dates on which the closed-cell foams were exported.

(v) Name of the foam manufacturer for each type of closed-cell foam where

the identity and mass of the fluorinated GHGg is unknown.

(vi) Certification that the exporter was unable to obtain information on the identity and mass of the fluorinated GHGs within the closed-cell foam from the closed-cell foam manufacturer or manufacturers.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71978, Nov. 29, 2013]

§ 98.437 Records that must be retained.

(a) In addition to the data required by § 98.3(g), importers of fluorinated GHGs in pre-charged equipment and closed-cell foams must retain the following records substantiating each of the imports that they report:

(1) A copy of the bill of lading for the import.

(2) The invoice for the import.

(3) The U.S. Customs entry form.

(4) Ports of entry through which the pre-charged equipment or closed-cell foams passed.

(5) Countries from which the pre-charged equipment or closed-cell foams were imported.

(6) For importers that report the mass of fluorinated GHGs within closed-cell foams on a CO_2e basis, correspondence or other documents that show the importer was unable to obtain information on the identity and mass of fluorinated GHG within closed-cell foams from the foam manufacturer.

(b) In addition to the data required by § 98.3(g), exporters of fluorinated GHGs in pre-charged equipment and closed-cell foams must retain the following records substantiating each of the exports that they report:

(1) A copy of the bill of lading for the export and

(2) The invoice for the export.

(3) Ports of exit through which the pre-charged equipment or closed-cell foams passed.

(4) Countries to which the pre-charged equipment or closed-cell foams were exported.

(5) For exporters that report the mass of fluorinated GHGs within closed-cell foams on a CO_2e basis, correspondence or other documents that show the exporter was unable to obtain information on the identity and mass of fluorinated GHG within closed-cell foams from the foam manufacturer.

(c) For importers and exports of fluorinated GHGs inside pre-charged equipment and closed-cell foams, the GHG Monitoring Plans, as described in § 98.3(g)(5), must be completed by April 1, 2011.

(d) Persons who transship pre-charged equipment and closed-cell foams containing fluorinated GHGs must maintain records that indicated that the pre-charged equipment or foam originated in a foreign country and was destined for another foreign country and did not enter into commerce in the United States.

§ 98.438 Definitions.

Except as provided in this section, all of the terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part. If a conflict exists between a definition provided in this subpart and a definition provided in subpart A, the definition in this subpart must take precedence for the reporting requirements in this subpart.

Appliance means any device which contains and uses a fluorinated greenhouse gas refrigerant and which is used for household or commercial purposes, including any air conditioner, refrigerator, chiller, or freezer.

Closed-cell foam means any foam product, excluding packaging foam, that is constructed with a closed-cell structure and a blowing agent containing a fluorinated GHG. Closed-cell foams include but are not limited to polyurethane (PU) foam contained in equipment, PU continuous and discontinuous panel foam, PU one component foam, PU spray foam, extruded polystyrene (XPS) boardstock foam, and XPS sheet foam. Packaging foam means foam used exclusively during shipment or storage to temporarily enclose items.

Electrical equipment means gas-insulated substations, circuit breakers, other switchgear, gas-insulated lines, or power transformers.

Fluorinated GHG refrigerant means, for purposes of this subpart, any substance consisting in part or whole of a fluorinated greenhouse gas and that is

used for heat transfer purposes and provides a cooling effect.

Pre-charged appliance means any appliance charged with fluorinated greenhouse gas refrigerant prior to sale or distribution or offer for sale or distribution in interstate commerce. This includes both appliances that contain the full charge necessary for operation and appliances that contain a partial ''holding'' charge of the fluorinated greenhouse gas refrigerant (e.g., for shipment purposes).

Pre-charged appliance component means any portion of an appliance, including but not limited to condensers, compressors, line sets, and coils, that is charged with fluorinated greenhouse gas refrigerant prior to sale or distribution or offer for sale or distribution in interstate commerce.

Pre-charged electrical equipment means any electrical equipment, including but not limited to gas-insulated substations, circuit breakers, other switchgear, gas-insulated lines, or power transformers containing a fluorinated GHG prior to sale or distribution, or offer for sale or distribution in interstate commerce. This includes both equipment that contain the full charge necessary for operation and equipment that contain a partial ''holding'' charge of the fluorinated GHG (e.g., for shipment purposes).

Pre-charged electrical equipment component means any portion of electrical equipment that is charged with a fluorinated greenhouse gas prior to sale or distribution or offer for sale or distribution in interstate commerce.

Pre-charged equipment means any pre-charged appliance, pre-charged appliance component, pre-charged electrical equipment, or pre-charged electrical equipment component.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71978, Nov. 29, 2013]

Subpart RR—Geologic Sequestration of Carbon Dioxide

SOURCE: 75 FR 75078, Dec. 1, 2010, unless otherwise noted.

§ 98.440 Definition of the source category.

(a) The geologic sequestration of carbon dioxide (CO_2) source category comprises any well or group of wells that inject a CO_2 stream for long-term containment in subsurface geologic formations.

(b) This source category includes all wells permitted as Class VI under the Underground Injection Control program.

(c) This source category does not include a well or group of wells where a CO_2 stream is being injected in subsurface geologic formations to enhance the recovery of oil or natural gas unless one of the following applies:

(1) The owner or operator injects the CO_2 stream for long-term containment in subsurface geologic formations and has chosen to submit a proposed monitoring, reporting, and verification (MRV) plan to EPA and received an approved plan from EPA.

(2) The well is permitted as Class VI under the Underground Injection Control program.

(d) *Exemption for research and development projects*. Research and development projects shall receive an exemption from reporting under this subpart for the duration of the research and development activity.

(1) *Process for obtaining an exemption*. If you are a research and development project, you must submit the information in paragraph (d)(2) of this section to EPA by the time you would be otherwise required to submit an MRV plan under § 98.448. EPA will use this information to verify that the project is a research and development project.

(2) *Content of submission*. A submission in support of an exemption as a research and development project must contain the following information:

(i) The planned duration of CO_2 injection for the project.

(ii) The planned annual CO_2 injection volumes during this time period.

(iii) The research purposes of the project.

(iv) The source and type of funding for the project.

(v) The class and duration of Underground Injection Control permit or, for an offshore facility not subject to the Safe Drinking Water Act, a description

of the legal instrument authorizing geologic sequestration.

(3) *Determination by the Administrator.*

(i) The Administrator shall determine if a project meets the definition of research and development project within 60 days of receipt of the submission of a request for exemption. In making this determination, the Administrator shall take into account any information you submit demonstrating that the planned duration of CO_2 injection for the project and the planned annual CO_2 injection volumes during the duration of the project are consistent with the purpose of the research and development project.

(ii) Any appeal of the Administrator's determination is subject to the provisions of part 78 of this chapter.

(iii) A project that the Administrator determines is not eligible for an exemption as a research and development project must submit a proposed MRV plan to EPA within 180 days of the Administrator's determination. You may request one extension of up to an additional 180 days in which to submit the proposed MRV plan.

§ 98.441 Reporting threshold.

(a) You must report under this subpart if any well or group of wells within your facility injects any amount of CO_2 for long-term containment in subsurface geologic formations. There is no threshold.

(b) *Request for discontinuation of reporting.* The requirements of § 98.2(i) do not apply to this subpart. Once a well or group of wells is subject to the requirements of this subpart, the owner or operator must continue for each year thereafter to comply with all requirements of this subpart, including the requirement to submit annual reports, until the Administrator has issued a final decision on an owner or operator's request to discontinue reporting.

(1) *Timing of request.* The owner or operator of a facility may submit a request to discontinue reporting any time after the well or group of wells is plugged and abandoned in accordance with applicable requirements.

(2) *Content of request.* A request for discontinuation of reporting must contain either paragraph (b)(2)(i) or (b)(2)(ii) of this section.

(i) For wells permitted as Class VI under the Underground Injection Control program, a copy of the applicable Underground Injection Control program Director's authorization of site closure.

(ii) For all other wells, and as an alternative for wells permitted as Class VI under the Underground Injection Control program, a demonstration that current monitoring and model(s) show that the injected CO_2 stream is not expected to migrate in the future in a manner likely to result in surface leakage.

(3) *Notification.* The Administrator will issue a final decision on the request to discontinue reporting within a reasonable time. Any appeal of the Administrator's final decision is subject to the provisions of part 78 of this chapter.

§ 98.442 GHGs to report.

You must report:

(a) Mass of CO_2 received.

(b) Mass of CO_2 injected into the subsurface.

(c) Mass of CO_2 produced.

(d) Mass of CO_2 emitted by surface leakage.

(e) Mass of CO_2 emissions from equipment leaks and vented emissions of CO_2 from surface equipment located between the injection flow meter and the injection wellhead.

(f) Mass of CO_2 emissions from equipment leaks and vented emissions of CO_2 from surface equipment located between the production flow meter and the production wellhead.

(g) Mass of CO_2 sequestered in subsurface geologic formations.

(h) Cumulative mass of CO_2 reported as sequestered in subsurface geologic formations in all years since the facility became subject to reporting requirements under this subpart.

[75 FR 75078, Dec. 1, 2010, as amended at 76 FR 73905, Nov. 29, 2011]

§ 98.443 Calculating CO_2 geologic sequestration.

You must calculate the mass of CO_2 received using CO_2 received equations (Equations RR–1 to RR–3 of this section), unless you follow the procedures

in §98.444(a)(4). You must calculate CO_2 sequestered using injection equations (Equations RR–4 to RR–6 of this section), production/recycling equations (Equations RR–7 to RR–9 of this section), surface leakage equations (Equation RR–10 of this section), and sequestration equations (Equations RR–11 and RR–12 of this section). For your first year of reporting, you must calculate CO_2 sequestered starting from the date set forth in your approved MRV plan.

(a) You must calculate and report the annual mass of CO_2 received by pipeline using the procedures in paragraphs (a)(1) or (a)(2) of this section and the procedures in paragraph (a)(3) of this section, if applicable.

(1) For a mass flow meter, you must calculate the total annual mass of CO_2 in a CO_2 stream received in metric tons by multiplying the mass flow by the CO_2 concentration in the flow, according to Equation RR–1 of this section. You must collect these data quarterly. Mass flow and concentration data measurements must be made in accordance with §98.444.

$$CO_{2T,r} = \sum_{p=1}^{4} (Q_{r,p} - S_{r,p}) * C_{CO_{2,p,r}} \qquad \text{(Eq. RR-1)}$$

where:

$CO_{2T,r}$ = Net annual mass of CO_2 received through flow meter r (metric tons).

$Q_{r,p}$ = Quarterly mass flow through a receiving flow meter r in quarter p (metric tons).

$S_{r,p}$ = Quarterly mass flow through a receiving flow meter r that is redelivered to another facility without being injected into your well in quarter p (metric tons).

$C_{CO2,p,r}$ = Quarterly CO_2 concentration measurement in flow for flow meter r in quarter p (wt. percent CO_2, expressed as a decimal fraction).

p = Quarter of the year.

r = Receiving flow meter.

(2) For a volumetric flow meter, you must calculate the total annual mass of CO_2 in a CO_2 stream received in metric tons by multiplying the volumetric flow at standard conditions by the CO_2 concentration in the flow and the density of CO_2 at standard conditions, according to Equation RR–2 of this section. You must collect these data quarterly. Volumetric flow and concentration data measurements must be made in accordance with §98.444.

$$CO_{2T,r} = \sum_{p=1}^{4} (Q_{r,p} - S_{r,p}) * D * C_{CO_{2,p,r}} \qquad \text{(Eq. RR-2)}$$

where:

$CO_{2T,r}$ = Net annual mass of CO_2 received through flow meter r (metric tons).

$Q_{r,p}$ = Quarterly volumetric flow through a receiving flow meter r in quarter p at standard conditions (standard cubic meters).

$S_{r,p}$ = Quarterly volumetric flow through a receiving flow meter r that is redelivered to another facility without being injected into your well in quarter p (standard cubic meters).

D = Density of CO_2 at standard conditions (metric tons per standard cubic meter): 0.0018682.

$C_{CO2,p,r}$ = Quarterly CO_2 concentration measurement in flow for flow meter r in quarter p (vol. percent CO_2, expressed as a decimal fraction).

p = Quarter of the year.

r = Receiving flow meter.

(3) If you receive CO_2 through more than one flow meter, you must sum the mass of all CO_2 received in accordance with the procedure specified in Equation RR–3 of this section.

$$CO_2 = \sum_{r=1}^{R} CO_{2T,r} \quad \text{(Eq. RR-3)}$$

where:

CO_2 = Total net annual mass of CO_2 received (metric tons).

$CO_{2T,r}$ = Net annual mass of CO_2 received (metric tons) as calculated in Equation RR–1 or RR–2 for flow meter r.

r = Receiving flow meter.

(b) You must calculate and report the annual mass of CO_2 received in containers using the procedures in paragraphs (b)(1) or (b)(2) of this section.

(1) If you are measuring the mass of contents in a container under the provisions of § 98.444(a)(2)(i), you must calculate the CO_2 received for injection in containers using Equation RR–1 of this section.

where:

$CO_{2T,r}$ = Net annual mass of CO_2 received in containers r (metric tons).

$C_{CO2,p,r}$ = Quarterly CO_2 concentration measurement of contents in containers r in quarter p (wt. percent CO_2, expressed as a decimal fraction).

$Q_{r,p}$ = Quarterly mass of contents in containers r in quarter p (metric tons).

$S_{r,p}$ = Quarterly volume of contents in containers r redelivered to another facility without being injected into your well in quarter p (standard cubic meters).

p = Quarter of the year.

r = Containers.

(2) If you are measuring the volume of contents in a container under the provisions of § 98.444(a)(2)(ii), you must calculate the CO_2 received for injection in containers using Equation RR–2 of this section.

where:

$CO_{2T,r}$ = Net annual mass of CO_2 received in containers r (metric tons).

$C_{CO2,p,r}$ = Quarterly CO_2 concentration measurement of contents in containers r in quarter p (vol. percent CO_2, expressed as a decimal fraction).

$Q_{r,p}$ = Quarterly volume of contents in containers r in quarter p (standard cubic meters).

$S_{r,p}$ = Quarterly mass of contents in containers r redelivered to another facility without being injected into your well in quarter p (metric tons).

D = Density of the CO_2 received in containers at standard conditions (metric tons per standard cubic meter):0.0018682.

p = Quarter of the year.

r = Containers.

(c) You must report the annual mass of CO_2 injected in accordance with the procedures specified in paragraphs (c)(1) through (c)(3) of this section.

(1) If you use a mass flow meter to measure the flow of an injected CO_2 stream, you must calculate annually the total mass of CO_2 (in metric tons) in the CO_2 stream injected each year in metric tons by multiplying the mass flow by the CO_2 concentration in the flow, according to Equation RR–4 of this section. Mass flow and concentration data measurements must be made in accordance with § 98.444.

$$CO_{2,u} = \sum_{p=1}^{4} Q_{p,u} * C_{CO_{2,p,u}} \quad \text{(Eq. RR-4)}$$

where:

$CO_{2,u}$ = Annual CO_2 mass injected (metric tons) as measured by flow meter u.

$Q_{p,u}$ = Quarterly mass flow rate measurement for flow meter u in quarter p (metric tons per quarter).

$C_{CO2,p,u}$ = Quarterly CO_2 concentration measurement in flow for flow meter u in quarter p (wt. percent CO_2, expressed as a decimal fraction).

p = Quarter of the year.

u = Flow meter.

(2) If you use a volumetric flow meter to measure the flow of an injected CO_2 stream, you must calculate annually the total mass of CO_2 (in metric tons) in the CO_2 stream injected each year in metric tons by multiplying the volumetric flow at standard conditions by the CO_2 concentration in the flow and

the density of CO_2 at standard conditions, according to Equation RR–5 of this section. Volumetric flow and concentration data measurements must be made in accordance with § 98.444.

$$CO_{2,u} = \sum_{p=1}^{4} Q_{p,u} * D * C_{CO_{2,p,u}} \quad \text{(Eq. RR-5)}$$

where:

$CO_{2,u}$ = Annual CO_2 mass injected (metric tons) as measured by flow meter u.

$Q_{p,u}$ = Quarterly volumetric flow rate measurement for flow meter u in quarter p at standard conditions (standard cubic meters per quarter).

D = Density of CO_2 at standard conditions (metric tons per standard cubic meter): 0.0018682.

$C_{CO2,p,u}$ = CO_2 concentration measurement in flow for flow meter u in quarter p (vol. percent CO_2, expressed as a decimal fraction).

p = Quarter of the year.

u = Flow meter.

(3) To aggregate injection data for all wells covered under this subpart, you must sum the mass of all CO_2 injected through all injection wells in accordance with the procedure specified in Equation RR–6 of this section.

$$CO_{2I} = \sum_{u=1}^{U} CO_{2,u} \quad \text{(Eq. RR-6)}$$

where:

CO_2. = Total annual CO_2 mass injected (metric tons) through all injection wells.

$CO_{2,u}$ = Annual CO_2 mass injected (metric tons) as measured by flow meter u.

u = Flow meter.

(d) You must calculate the annual mass of CO_2 produced from oil or gas production wells or from other fluid wells for each separator that sends a stream of gas into a recycle or end use system in accordance with the procedures specified in paragraphs (d)(1) through (d)(3) of this section. You must account for any CO_2 that is produced and not processed through a separator. You must account only for wells that produce the CO_2 that was injected into the well or wells covered by this source category.

(1) For each gas-liquid separator for which flow is measured using a mass flow meter, you must calculate annually the total mass of CO_2 produced from an oil or other fluid stream in metric tons that is separated from the fluid by multiplying the mass gas flow by the CO_2 concentration in the gas flow, according to Equation RR–7 of this section. You must collect these data quarterly. Mass flow and concentration data measurements must be made in accordance with § 98.444.

$$CO_{2,w} = \sum_{p=1}^{4} Q_{p,w} * C_{CO_{2,p,w}} \quad \text{(Eq. RR-7)}$$

Where:

$CO_{2,w}$ = Annual CO_2 mass produced (metric tons) through separator w.

$Q_{p,w}$ = Quarterly gas mass flow rate measurement for separator w in quarter p (metric tons).

$C_{CO2,p,w}$ = Quarterly CO_2 concentration measurement in flow for separator w in quarter p (wt. percent CO_2, expressed as a decimal fraction).
p = Quarter of the year.
w = Separator.

(2) For each gas-liquid separator for which flow is measured using a volumetric flow meter, you must calculate annually the total mass of CO_2 produced from an oil or other fluid stream in metric tons that is separated from the fluid by multiplying the volumetric gas flow at standard conditions by the CO_2 concentration in the gas flow and the density of CO_2 at standard conditions, according to Equation RR–8 of this section. You must collect these data quarterly. Volumetric flow and concentration data measurements must be made in accordance with § 98.444.

$$CO_{2,w} = \sum_{p=1}^{4} Q_{p,w} * D * C_{CO_{2,p,w}} \qquad \text{(Eq. RR-8)}$$

Where:
$CO_{2,w}$ = Annual CO_2 mass produced (metric tons) through separator w.
$Q_{p,w}$ = Volumetric gas flow rate measurement for separator w in quarter p at standard conditions (standard cubic meters).
D = Density of CO_2 at standard conditions (metric tons per standard cubic meter): 0.0018682.
$C_{CO2,p,w}$ = CO_2 concentration measurement in flow for separator w in quarter p (vol. percent CO_2, expressed as a decimal fraction).
p = Quarter of the year.
w = Separator.

(3) To aggregate production data, you must sum the mass of all of the CO_2 separated at each gas-liquid separator in accordance with the procedure specified in Equation RR–9 of this section. You must assume that the total CO_2 measured at the separator(s) represents a percentage of the total CO_2 produced. In order to account for the percentage of CO_2 produced that is estimated to remain with the produced oil or other fluid, you must multiply the quarterly mass of CO_2 measured at the separator(s) by a percentage estimated using a methodology in your approved MRV plan. If fluids containing CO_2 from injection wells covered under this source category are produced and not processed through a gas-liquid separator, the concentration of CO_2 in the produced fluids must be measured at a flow meter located prior to reinjection or reuse using methods in § 98.444(f)(1). The considerations you intend to use to calculate CO_2 from produced fluids for the mass balance equation must be described in your approved MRV plan in accordance with § 98.448(a)(5).

$$CO_{2P} = (1+X) * \sum_{w=1}^{W} CO_{2,w} \qquad \text{(Eq. RR-9)}$$

Where:
CO_2. = Total annual CO_2 mass produced (metric tons) through all separators in the reporting year.
$CO_{2,w}$ = Annual CO_2 mass produced (metric tons) through separator w in the reporting year.
X = Entrained CO_2 in produced oil or other fluid divided by the CO_2 separated through all separators in the reporting year (weight percent CO_2, expressed as a decimal fraction).
w = Separator.

(e) You must report the annual mass of CO_2 that is emitted by surface leakage in accordance with your approved MRV plan. You must calculate the total annual mass of CO_2 emitted from all leakage pathways in accordance with the procedure specified in Equation RR–10 of this section.

$$CO_{2E} = \sum_{x=1}^{X} CO_{2,x} \quad \text{(Eq. RR-10)}$$

where:

CO_2. = Total annual CO_2 mass emitted by surface leakage (metric tons) in the reporting year.

$CO_{2,x}$ = Annual CO_2 mass emitted (metric tons) at leakage pathway x in the reporting year.

x = Leakage pathway.

(f) You must report the annual mass of CO_2 that is sequestered in subsurface geologic formations in the reporting year in accordance with the procedures specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If you are actively producing oil or natural gas or if you are producing any other fluids, you must calculate the annual mass of CO_2 that is sequestered in the underground subsurface formation in the reporting year in accordance with the procedure specified in Equation RR–11 of this section.

$$CO_2 = CO_{2I} - CO_{2P} - CO_{2E} - CO_{2FI} - CO_{2FP} \quad \text{(Eq. RR-11)}$$

where:

CO_2 = Total annual CO_2 mass sequestered in subsurface geologic formations (metric tons) at the facility in the reporting year.

CO_2. = Total annual CO_2 mass injected (metric tons) in the well or group of wells covered by this source category in the reporting year.

CO_{2P} = Total annual CO_2 mass produced (metric tons) in the reporting year.

CO_2. = Total annual CO_2 mass emitted (metric tons) by surface leakage in the reporting year.

CO_{2FI} = Total annual CO_2 mass emitted (metric tons) from equipment leaks and vented emissions of CO_2 from equipment located on the surface between the flow meter used to measure injection quantity and the injection wellhead, for which a calculation procedure is provided in subpart W of this part.

CO_{2FP} = Total annual CO_2 mass emitted (metric tons) from equipment leaks and vented emissions of CO_2 from equipment located on the surface between the production wellhead and the flow meter used to measure production quantity, for which a calculation procedure is provided in subpart W of this part.

(2) If you are not actively producing oil or natural gas or any other fluids, you must calculate the annual mass of CO_2 that is sequestered in subsurface geologic formations in the reporting year in accordance with the procedures specified in Equation RR–12 of this section.

$$CO_2 = CO_{2I} - CO_{2E} - CO_{2FI} \quad \text{(Eq. RR-12)}$$

where:

CO_2 = Total annual CO_2 mass sequestered in subsurface geologic formations (metric tons) at the facility in the reporting year.

CO_2. = Total annual CO_2 mass injected (metric tons) in the well or group of wells covered by this source category in the reporting year.

CO_2. = Total annual CO_2 mass emitted (metric tons) by surface leakage in the reporting year.

CO_{2FI} = Total annual CO_2 mass emitted (metric tons) from equipment leaks and vented emissions of CO_2 from equipment located on the surface between the flow meter used to measure injection quantity and the injection wellhead, for which a calculation procedure is provided in subpart W of this part.

[75 FR 75078, Dec. 1, 2010, as amended at 76 FR 73906, Nov. 29, 2011; 78 FR 71978, Nov. 29, 2013]

§ 98.444 Monitoring and QA/QC requirements.

(a) *CO_2 received.* (1) Except as provided in paragraph (a)(4) of this section, you must determine the quarterly flow rate of CO_2 received by pipeline by following the most appropriate of the following procedures:

(i) You may measure flow rate at the receiving custody transfer meter prior to any subsequent processing operations at the facility and collect the flow rate quarterly.

(ii) If you took ownership of the CO_2 in a commercial transaction, you may use the quarterly flow rate data from the sales contract if it is a one-time transaction or from invoices or manifests if it is an ongoing commercial transaction with discrete shipments.

(iii) If you inject CO_2 received from a production process unit that is part of your facility, you may use the quarterly CO_2 flow rate that was measured at the equivalent of a custody transfer meter following procedures provided in subpart PP of this part. To be the equivalent of a custody transfer meter, a meter must measure the flow of CO_2 being transported to an injection well to the same degree of accuracy as a meter used for commercial transactions.

(2) Except as provided in paragraph (a)(4) of this section, you must determine the quarterly mass or volume of contents in all containers if you receive CO_2 in containers by following the most appropriate of the following procedures:

(i) You may measure the mass of contents of containers summed quarterly using weigh bills, scales, or load cells.

(ii) You may determine the volume of the contents of containers summed quarterly.

(iii) If you took ownership of the CO_2 in a commercial transaction, you may use the quarterly mass or volume of contents from the sales contract if it is a one-time transaction or from invoices or manifests if it is an ongoing commercial transaction with discrete shipments.

(3) Except as provided in paragraph (a)(4) of this section, you must determine a quarterly concentration of the CO_2 received that is representative of all CO_2 received in that quarter by following the most appropriate of the following procedures:

(i) You may sample the CO_2 stream at least once per quarter at the point of receipt and measure its CO_2 concentration.

(ii) If you took ownership of the CO_2 in a commercial transaction for which the sales contract was contingent on CO_2 concentration, and if the supplier of the CO_2 sampled the CO_2 stream in a quarter and measured its concentration per the sales contract terms, you may use the CO_2 concentration data from the sales contract for that quarter.

(iii) If you inject CO_2 from a production process unit that is part of your facility, you may report the quarterly CO_2 concentration of the CO_2 stream supplied that was measured following the procedures provided in subpart PP of this part.

(4) If the CO_2 you receive is wholly injected and is not mixed with any other supply of CO_2, you may report the annual mass of CO_2 injected that you determined following the requirements under paragraph (b) of this section as the total annual mass of CO_2 received instead of using Equation RR–1 or RR–2 of this subpart to calculate CO_2 received.

(5) You must assume that the CO_2 you receive meets the definition of a CO_2 stream unless you can trace it through written records to a source other than a CO_2 stream.

(b) *CO_2 injected.* (1) You must select a point or points of measurement at which the CO_2 stream(s) is representative of the CO_2 stream(s) being injected. You may use as the point or points of measurement the location(s) of the flow meter(s) used to comply with the flow monitoring and reporting provisions in your Underground Injection Control permit.

(2) You must measure flow rate of CO_2 injected with a flow meter and collect the flow rate quarterly.

(3) You must sample the injected CO_2 stream at least once per quarter immediately upstream or downstream of the flow meter used to measure flow rate of that CO_2 stream and measure the CO_2 concentration of the sample.

(c) *CO_2 produced.* (1) The point of measurement for the quantity of CO_2

produced from oil or other fluid production wells is a flow meter directly downstream of each separator that sends a stream of gas into a recycle or end use system.

(2) You must sample the produced gas stream at least once per quarter immediately upstream or downstream of the flow meter used to measure flow rate of that gas stream and measure the CO_2 concentration of the sample.

(3) You must measure flow rate of gas produced with a flow meter and collect the flow rate quarterly.

(d) *CO_2 emissions from equipment leaks and vented emissions of CO_2.* If you have equipment located on the surface between the flow meter used to measure injection quantity and the injection wellhead or between the flow meter used to measure production quantity and the production wellhead, you must follow the monitoring and QA/QC requirements specified in subpart W of this part for the equipment.

(e) *Measurement devices.* (1) All flow meters must be operated continuously except as necessary for maintenance and calibration.

(2) You must calibrate all flow meters used to measure quantities reported in § 98.446 according to the calibration and accuracy requirements in § 98.3(i).

(3) You must operate all measurement devices according to one of the following. You may use an appropriate standard method published by a consensus-based standards organization if such a method exists or an industry standard practice. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB).

(4) You must ensure that any flow meter calibrations performed are National Institute of Standards and Technology (NIST) traceable.

(f) *General.* (1) If you measure the concentration of any CO_2 quantity for reporting, you must measure according to one of the following. You may use an appropriate standard method published by a consensus-based standards organization if such a method exists or an industry standard practice.

(2) You must convert all measured volumes of CO_2 to the following standard industry temperature and pressure conditions for use in Equations RR–2, RR–5 and RR–8 of this subpart: Standard cubic meters at a temperature of 60 degrees Fahrenheit and at an absolute pressure of 1 atmosphere.

(3) For 2011, you may follow the provisions of § 98.3(d)(1) through (2) for best available monitoring methods only for parameters required by paragraphs (a) and (b) of § 98.443 rather than follow the monitoring requirements of paragraph (a) of this section. For purposes of this subpart, any reference to the year 2010 in § 98.3(d)(1) through (2) shall mean 2011.

[75 FR 75078, Dec. 1, 2010, as amended at 76 FR 73906, Nov. 29, 2011]

§ 98.445 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG quantities calculations is required. Whenever the monitoring procedures cannot be followed, you must use the following missing data procedures:

(a) A quarterly flow rate of CO_2 received that is missing must be estimated as follows:

(1) Another calculation methodology listed in § 98.444(a)(1) must be used if possible.

(2) If another method listed in § 98.444(a)(1) cannot be used, a quarterly flow rate value that is missing must be estimated using a representative flow rate value from the nearest previous time period.

(b) A quarterly mass or volume of contents in containers received that is missing must be estimated as follows:

(1) Another calculation methodology listed in § 98.444(a)(2) must be used if possible.

(2) If another method listed in § 98.444(a)(2) cannot be used, a quarterly mass or volume value that is missing must be estimated using a representative mass or volume value from the nearest previous time period.

(c) A quarterly CO_2 concentration of a CO_2 stream received that is missing must be estimated as follows:

(1) Another calculation methodology listed in § 98.444(a)(3) must be used if possible.

(2) If another method listed in § 98.444(a)(3) cannot be used, a quarterly concentration value that is missing must be estimated using a representative concentration value from the nearest previous time period.

(d) A quarterly quantity of CO_2 injected that is missing must be estimated using a representative quantity of CO_2 injected from the nearest previous period of time at a similar injection pressure.

(e) For any values associated with CO_2 emissions from equipment leaks and vented emissions of CO_2 from surface equipment at the facility that are reported in this subpart, missing data estimation procedures should be followed in accordance with those specified in subpart W of this part.

(f) The quarterly quantity of CO_2 produced from subsurface geologic formations that is missing must be estimated using a representative quantity of CO_2 produced from the nearest previous period of time.

(g) You must estimate the mass of CO_2 emitted by surface leakage that is missing as required by your approved MRV plan.

(h) You must estimate other missing data as required by your approved MRV plan.

[75 FR 75078, Dec. 1, 2010, as amended at 76 FR 73906, Nov. 29, 2011]

§ 98.446 Data reporting requirements.

In addition to the information required by § 98.3(c), report the information listed in this section.

(a) If you receive CO_2 by pipeline, report the following for each receiving flow meter:

(1) The total net mass of CO_2 received (metric tons) annually.

(2) If a volumetric flow meter is used to receive CO_2 report the following unless you reported yes to paragraph (a)(4) of this section:

(i) The volumetric flow through a receiving flow meter at standard conditions (in standard cubic meters) in each quarter.

(ii) The volumetric flow through a receiving flow meter that is redelivered to another facility without being injected into your well (in standard cubic meters) in each quarter.

(iii) The CO_2 concentration in the flow (volume percent CO_2 expressed as a decimal fraction) in each quarter.

(3) If a mass flow meter is used to receive CO_2 report the following unless you reported yes to paragraph (a)(4) of this section:

(i) The mass flow through a receiving flow meter (in metric tons) in each quarter.

(ii) The mass flow through a receiving flow meter that is redelivered to another facility without being injected into your well (in metric tons) in each quarter.

(iii) The CO_2 concentration in the flow (weight percent CO_2 expressed as a decimal fraction) in each quarter.

(4) If the CO_2 received is wholly injected and not mixed with any other supply of CO_2, report whether you followed the procedures in § 98.444(a)(4).

(5) The standard or method used to calculate each value in paragraphs (a)(2) through (a)(3) of this section.

(6) The number of times in the reporting year for which substitute data procedures were used to calculate values reported in paragraphs (a)(2) through (a)(3) of this section.

(7) Whether the flow meter is mass or volumetric.

(8) A numerical identifier for the flow meter.

(b) If you receive CO_2 in containers, report:

(1) The mass (in metric tons) or volume at standard conditions (in standard cubic meters) of contents in containers received in each quarter.

(2) The concentration of CO_2 of contents in containers (volume or wt. percent CO_2 expressed as a decimal fraction) in each quarter.

(3) The mass (in metric tons) or volume (in standard cubic meters) of contents in containers that is redelivered to another facility without being injected into your well in each quarter.

(4) The net mass of CO_2 received (in metric tons) annually.

(5) The standard or method used to calculate each value in paragraphs (b)(1), (b)(2), and (b)(3) of this section.

(6) The number of times in the reporting year for which substitute data procedures were used to calculate values reported in paragraphs (b)(1) and (b)(2) of this section.

(c) If you use more than one receiving flow meter, report the total net mass of CO_2 received (metric tons) through all flow meters annually.

(d) The source of the CO_2 received according to the following categories:

(1) CO_2 production wells.

(2) Electric generating unit.

(3) Ethanol plant.

(4) Pulp and paper mill.

(5) Natural gas processing.

(6) Gasification operations.

(7) Other anthropogenic source.

(8) Discontinued enhanced oil and gas recovery project.

(9) Unknown.

(e) Report the date that you began collecting data for calculating total amount sequestered according to § 98.448(a)(7) of this subpart.

(f) Report the following. If the date specified in paragraph (e) of this section is during the reporting year for this annual report, report the following starting on the date specified in paragraph (e) of this section.

(1) For each injection flow meter (mass or volumetric), report:

(i) The mass of CO_2 injected (metric tons) annually.

(ii) The CO_2 concentration in flow (volume or weight percent CO_2 expressed as a decimal fraction) in each quarter.

(iii) If a volumetric flow meter is used, the volumetric flow rate at standard conditions (in standard cubic meters) in each quarter.

(iv) If a mass flow meter is used, the mass flow rate (in metric tons) in each quarter.

(v) A numerical identifier for the flow meter.

(vi) Whether the flow meter is mass or volumetric.

(vii) The standard used to calculate each value in paragraphs (f)(1)(ii) through (f)(1)(iv) of this section.

(viii) The number of times in the reporting year for which substitute data procedures were used to calculate values reported in paragraphs (f)(1)(ii) through (f)(1)(iv) of this section.

(ix) The location of the flow meter.

(2) The total CO_2 injected (metric tons) in the reporting year as calculated in Equation RR–6 of this subpart.

(3) For CO_2 emissions from equipment leaks and vented emissions of CO_2, report the following:

(i) The mass of CO_2 emitted (in metric tons) annually from equipment leaks and vented emissions of CO_2 from equipment located on the surface between the flow meter used to measure injection quantity and the injection wellhead.

(ii) The mass of CO_2 emitted (in metric tons) annually from equipment leaks and vented emissions of CO_2 from equipment located on the surface between the production wellhead and the flow meter used to measure production quantity.

(4) For each separator flow meter (mass or volumetric), report:

(i) CO_2 mass produced (metric tons) annually.

(ii) CO_2 concentration in flow (volume or weight percent CO_2 expressed as a decimal fraction) in each quarter.

(iii) If a volumetric flow meter is used, volumetric flow rate at standard conditions (standard cubic meters) in each quarter.

(iv) If a mass flow meter, mass flow rate (metric tons) in each quarter.

(v) A numerical identifier for the flow meter.

(vi) Whether the flow meter is mass or volumetric.

(vii) The standard used to calculate each value in paragraphs (f)(4)(ii) through (f)(4)(iv) of this section.

(viii) The number of times in the reporting year for which substitute data procedures were used to calculate values reported in paragraphs (f)(4)(ii) through (f)(4)(iv) of this section.

(5) The entrained CO_2 in produced oil or other fluid divided by the CO_2 separated through all separators in the reporting year (weight percent CO_2 expressed as a decimal fraction) used as the value for X in Equation RR–9 of this subpart and as determined according to your EPA-approved MRV plan.

(6) Annual CO_2 produced in the reporting year as calculated in Equation RR–9 of this subpart.

(7) For each leakage pathway through which CO_2 emissions occurred, report:

(i) A numerical identifier for the leakage pathway.

(ii) The CO_2 (metric tons) emitted through that pathway in the reporting year.

(8) Annual CO_2 mass emitted (metric tons) by surface leakage in the reporting year as calculated by Equation RR–10 of this subpart.

(9) Annual CO_2 (metric tons) sequestered in subsurface geologic formations in the reporting year as calculated by Equation RR–11 or RR–12 of this subpart.

(10) Cumulative mass of CO_2 (metric tons) reported as sequestered in subsurface geologic formations in all years since the well or group of wells became subject to reporting requirements under this subpart.

(11) Date that the most recent MRV plan was approved by EPA and the MRV plan approval number that was issued by EPA.

(12) An annual monitoring report that contains the following components:

(i) A narrative history of the monitoring efforts conducted over the previous calendar year, including a listing of all monitoring equipment that was operated, its period of operation, and any relevant tests or surveys that were conducted.

(ii) A description of any changes to the monitoring program that you concluded were not material changes warranting submission of a revised MRV plan under § 98.448(d).

(iii) A narrative history of any monitoring anomalies that were detected in the previous calendar year and how they were investigated and resolved.

(iv) A description of any surface leakages of CO_2, including a discussion of all methodologies and technologies involved in detecting and quantifying the surface leakages and any assumptions and uncertainties involved in calculating the amount of CO_2 emitted.

(13) If a well is permitted under the Underground Injection Control program, for each injection well, report:

(i) The well identification number used for the Underground Injection Control permit.

(ii) The Underground Injection Control permit class.

(14) If an offshore well is not subject to the Safe Drinking Water Act, for each injection well, report any well identification number and any identification number used for the legal instrument authorizing geologic sequestration.

[75 FR 75078, Dec. 1, 2010, as amended at 76 FR 73906, Nov. 29, 2011; 78 FR 71979, Nov. 29, 2013]

§ 98.447 Records that must be retained.

(a) You must follow the record retention requirements specified by § 98.3(g). In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a)(1) through (7) of this section, as applicable. You must retain all required records for at least 3 years.

(1) Quarterly records of CO_2 received, including mass flow rate of contents of containers (mass or volumetric) at standard conditions and operating conditions, operating temperature and pressure, and concentration of these streams.

(2) Quarterly records of produced CO_2, including mass flow or volumetric flow at standard conditions and operating conditions, operating temperature and pressure, and concentration of these streams.

(3) Quarterly records of injected CO_2 including mass flow or volumetric flow at standard conditions and operating conditions, operating temperature and pressure, and concentration of these streams.

(4) Annual records of information used to calculate the CO_2 emitted by surface leakage from leakage pathways.

(5) Annual records of information used to calculate the CO_2 emitted from equipment leaks and vented emissions of CO_2 from equipment located on the surface between the flow meter used to measure injection quantity and the injection wellhead.

(6) Annual records of information used to calculate the CO_2 emitted from equipment leaks and vented emissions of CO_2 from equipment located on the

surface between the production wellhead and the flow meter used to measure production quantity.

(7) Any other records as specified for retention in your EPA-approved MRV plan.

(b) You must complete your monitoring plans, as described in § 98.3(g)(5), by April 1 of the year you begin collecting data.

[75 FR 75078, Dec. 1, 2010, as amended at 76 FR 73906, Nov. 29, 2011]

§ 98.448 Geologic sequestration monitoring, reporting, and verification (MRV) plan.

(a) *Contents of MRV plan.* You must develop and submit to the Administrator a proposed MRV plan for monitoring, reporting, and verification of geologic sequestration at your facility. Your proposed MRV plan must contain the following components:

(1) Delineation of the maximum monitoring area and the active monitoring areas. The first period for your active monitoring area will begin from the date determined in your MRV plan through the date at which the plan calls for the first expansion of the monitoring area. The length of each monitoring period can be any time interval chosen by you that is greater than 1 year.

(2) Identification of potential surface leakage pathways for CO_2 in the maximum monitoring area and the likelihood, magnitude, and timing, of surface leakage of CO_2 through these pathways.

(3) A strategy for detecting and quantifying any surface leakage of CO_2.

(4) A strategy for establishing the expected baselines for monitoring CO_2 surface leakage.

(5) A summary of the considerations you intend to use to calculate site-specific variables for the mass balance equation. This includes, but is not limited to, considerations for calculating CO_2 emissions from equipment leaks and vented emissions of CO_2 between the injection flow meter and injection well and/or the production flow meter and production well, and considerations for calculating CO_2 in produced fluids.

(6) If a well is permitted under the Underground Injection Control program, for each injection well, report the well identification number used for the Underground Injection Control permit and the Underground Injection Control permit class. If the well is not yet permitted, and you have applied for an Underground Injection Control permit, report the well identification numbers in the permit application. If an offshore well is not subject to the Safe Drinking Water Act, for each injection well, report any well identification number and any identification number used for the legal instrument authorizing geologic sequestration. If you are submitting your Underground Injection Control permit application as part of your proposed MRV plan, you must notify EPA when the permit has been approved. If you are an offshore facility not subject to the Safe Drinking Water Act, and are submitting your application for the legal instrument authorizing geologic sequestration as part of your proposed MRV plan, you must notify EPA when the legal instrument authorizing geologic sequestration has been approved.

(7) Proposed date to begin collecting data for calculating total amount sequestered according to equation RR–11 or RR–12 of this subpart. This date must be after expected baselines as required by paragraph (a)(4) of this section are established and the leakage detection and quantification strategy as required by paragraph (a)(3) of this section is implemented in the initial AMA.

(b) *Timing.* You must submit a proposed MRV plan to EPA according to the following schedule:

(1) You must submit a proposed MRV plan to EPA by June 30, 2011 if you were issued a final Underground Injection Control permit authorizing the injection of CO_2 into the subsurface on or before December 31, 2010. You will be allowed to request one extension of up to an additional 180 days in which to submit your proposed MRV plan.

(2) You must submit a proposed MRV plan to EPA within 180 days of receiving a final Underground Injection Control permit authorizing the injection of CO_2 into the subsurface. If your facility is an offshore facility not subject to the Safe Drinking Water Act, you must submit a proposed MRV plan to EPA

within 180 days of receiving authorization to begin geologic sequestration of CO_2. You will be allowed to request one extension of the submittal date of up to an additional 180 days.

(3) If you are injecting a CO_2 stream in subsurface geologic formations to enhance the recovery of oil or natural gas and you are not permitted as Class VI under the Underground Injection Control program, you may opt to submit an MRV plan at any time.

(4) If EPA determines that your proposed MRV plan is incomplete, you must submit an updated MRV plan within 45 days of EPA notification, unless otherwise specified by EPA.

(c) *Final MRV plan.* The Administrator will issue a final MRV plan within a reasonable period of time. The Administrator's final MRV plan is subject to the provisions of part 78 of this chapter. Once the MRV plan is final and no longer subject to administrative appeal under part 78 of this chapter, you must implement the plan starting on the day after the day on which the plan becomes final and is no longer subject to such appeal.

(d) *MRV plan revisions.* You must revise and submit the MRV plan within 180 days to the Administrator for approval if any of the following in paragraphs (d)(1) through (d)(4) of this section applies. You must include the reason(s) for the revisions in your submittal.

(1) A material change was made to monitoring and/or operational parameters that was not anticipated in the original MRV plan. Examples of material changes include but are not limited to: Large changes in the volume of CO_2 injected; the construction of new injection wells not identified in the MRV plan; failures of the monitoring system including monitoring system sensitivity, performance, location, or baseline; changes to surface land use that affects baseline or operational conditions; observed plume location that differs significantly from the predicted plume area used for developing the MRV plan; a change in the maximum monitoring area or active monitoring area; or a change in monitoring technology that would result in coverage or detection capability different from the MRV plan.

(2) A change in the permit class of your Underground Injection Control permit.

(3) If you are notified by EPA of substantive errors in your MRV plan or monitoring report.

(4) You choose to revise your MRV plan for any other reason in any reporting year.

(e) *Revised MRV plan.* The requirements of paragraph (c) of this section apply to any submission of a revised MRV plan. You must continue reporting under your currently approved plan while awaiting approval of a revised MRV plan.

(f) *Format.* Each proposed MRV plan or revision and each annual report must be submitted electronically in a format specified by the Administrator.

(g) *Certificate of representation.* You must submit a certificate of representation according to the provisions in § 98.4 at least 60 days before submission of your MRV plan, your research and development exemption request, your MRV plan submission extension request, or your initial annual report under this part, whichever is earlier.

[75 FR 75078, Dec. 1, 2010, as amended at 76 FR 73907, Nov. 29, 2011]

§ 98.449 Definitions.

Except as provided below, all terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

Active monitoring area is the area that will be monitored over a specific time interval from the first year of the period (n) to the last year in the period (t). The boundary of the active monitoring area is established by superimposing two areas:

(1) The area projected to contain the free phase CO_2 plume at the end of year t, plus an all around buffer zone of one-half mile or greater if known leakage pathways extend laterally more than one-half mile.

(2) The area projected to contain the free phase CO_2 plume at the end of year t+5.

CO_2 received means the CO_2 stream that you receive to be injected for the first time into a well on your facility that is covered by this subpart. CO_2 received includes, but is not limited to, a CO_2 stream from a production process

unit inside your facility and a CO_2 stream that was injected into a well on another facility, removed from a discontinued enhanced oil or natural gas or other production well, and transferred to your facility.

Equipment leak means those emissions that could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening.

Expected baseline is the anticipated value of a monitored parameter that is compared to the measured monitored parameter.

Maximum monitoring area means the area that must be monitored under this regulation and is defined as equal to or greater than the area expected to contain the free phase CO_2 plume until the CO_2 plume has stabilized plus an all-around buffer zone of at least one-half mile.

Research and development project means a project for the purpose of investigating practices, monitoring techniques, or injection verification, or engaging in other applied research, that will enable safe and effective long-term containment of a CO_2 stream in subsurface geologic formations, including research and short duration CO_2 injection tests conducted as a precursor to long-term storage.

Separator means a vessel in which streams of multiple phases are gravity separated into individual streams of single phase.

Surface leakage means the movement of the injected CO_2 stream from the injection zone to the surface, and into the atmosphere, indoor air, oceans, or surface water.

Underground Injection Control permit means a permit issued under the authority of Part C of the Safe Drinking Water Act at 42 U.S.C. 300h *et seq.*

Underground Injection Control program means the program responsible for regulating the construction, operation, permitting, and closure of injection wells that place fluids underground for storage or disposal for purposes of protecting underground sources of drinking water from endangerment pursuant to Part C of the Safe Drinking Water Act at 42 U.S.C. 300h *et seq.*

Vented emissions means intentional or designed releases of CH_4 or CO_2 containing natural gas or hydrocarbon gas (not including stationary combustion flue gas), including process designed flow to the atmosphere through seals or vent pipes, equipment blowdown for maintenance, and direct venting of gas used to power equipment (such as pneumatic devices).

[75 FR 75078, Dec. 1, 2010, as amended at 76 FR 73907, Nov. 29, 2011]

Subpart SS—Electrical Equipment Manufacture or Refurbishment

SOURCE: 75 FR 74859, Dec. 1, 2010, unless otherwise noted.

§ 98.450 Definition of the source category.

The electrical equipment manufacturing or refurbishment category consists of processes that manufacture or refurbish gas-insulated substations, circuit breakers, other switchgear, gas-insulated lines, or power transformers (including gas-containing components of such equipment) containing sulfur-hexafluoride (SF_6) or perfluorocarbons (PFCs). The processes include equipment testing, installation, manufacturing, decommissioning and disposal, refurbishing, and storage in gas cylinders and other containers.

§ 98.451 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an electrical equipment manufacturing or refurbishing process and the facility meets the requirements of § 98.2(a)(1). Electrical equipment manufacturing and refurbishing facilities covered by this rule are those that have total annual purchases of SF_6 and PFCs that exceed 23,000 pounds.

§ 98.452 GHGs to report.

(a) You must report SF_6 and PFC emissions at the facility level. Annual emissions from the facility must include SF_6 and PFC emissions from equipment that is installed at an off-site electric power transmission or distribution location whenever emissions from installation activities (e.g., filling) occur before the title to the equipment is transferred to the electric power transmission or distribution entity.

(b) You must report CO_2, N_2O and CH_4 emissions from each stationary combustion unit. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C of this part.

§ 98.453 Calculating GHG emissions.

(a) For each electrical equipment manufacturer or refurbisher, estimate the annual SF_6 and PFC emissions using the mass-balance approach in Equation SS–1 of this section:

User Emissions = (Decrease in SF_6 Inventory) + (Acquisitions of SF_6) – (Disbursements of SF_6) (Eq. SS-1)

where:

Decrease in SF_6 Inventory = (Pounds of SF_6 stored in containers at the beginning of the year) – (Pounds of SF_6 stored in containers at the end of the year).

Acquisitions of SF_6 = (Pounds of SF_6 purchased from chemical producers or suppliers in bulk) + (Pounds of SF_6 returned by equipment users) + (Pounds of SF_6 returned to site after off-site recycling).

Disbursements of SF_6 = (Pounds of SF_6 contained in new equipment delivered to customers) + (Pounds of SF_6 delivered to equipment users in containers) + (Pounds of SF_6 returned to suppliers) + (Pounds of SF_6 sent off site for recycling) + (Pounds of SF_6 sent off-site for destruction).

(b) Use the mass-balance method in paragraph (a) of this section to estimate emissions of PFCs associated with the manufacture or refurbishment of power transformers, substituting the relevant PFC(s) for SF_6 in Equation SS–1 of this section.

(c) Estimate the disbursements of SF_6 or PFCs sent to customers in new equipment or cylinders or sent off-site for other purposes including for recycling, for destruction or to be returned to suppliers using Equation SS–2 of this section:

$$D_{GHG} = \sum_{p=1}^{n} Q_p \quad \text{(Eq. SS-2)}$$

where:

D_{GHG} = The annual disbursement of SF_6 or PFCs sent to customers in new equipment or cylinders or sent off-site for other purposes including for recycling, for destruction or to be returned to suppliers.

Q_p = The mass of the SF_6 or PFCs charged into equipment or containers over the period p sent to customers or sent off-site for other purposes including for recycling, for destruction or to be returned to suppliers.

n = The number of periods in the year.

(d) Estimate the mass of SF_6 or PFCs disbursed to customers in new equipment or cylinders over the period p by monitoring the mass flow of the SF_6 or PFCs into the new equipment or cylinders using a flowmeter, or by weighing containers before and after gas from containers is used to fill equipment or cylinders, or by using the nameplate capacity of the equipment.

(e) If the mass of SF_6 or the PFC disbursed to customers in new equipment or cylinders over the period p is estimated by weighing containers before and after gas from containers is used to fill equipment or cylinders, estimate this quantity using Equation SS–3 of this section:

$$Q_p = M_B - M_E - E_L \quad \text{(Eq. SS-3)}$$

where:

Q_p = The mass of SF_6 or the PFC charged into equipment or containers over the period p sent to customers or sent off-site for other purposes including for recycling, for destruction or to be returned to suppliers.

M_B = The mass of the contents of the containers used to fill equipment or cylinders at the beginning of period p.

M_E = The mass of the contents of the containers used to fill equipment or cylinders at the end of period p.

E_L = The mass of SF_6 or the PFC emitted during the period p downstream of the containers used to fill equipment or cylinders and in cases where a flowmeter is used, downstream of the flowmeter during the period p (e.g., emissions from hoses or other flow lines that connect the container to the equipment or cylinder that is being filled).

(f) If the mass of SF_6 or the PFC disbursed to customers in new equipment or cylinders over the period p is determined using a flowmeter, estimate this quantity using Equation SS–4 of this section:

$$Q_p = M_{mr} - E_L \quad \text{(Eq. SS-4)}$$

where:

Q_p = The mass of SF_6 or the PFC charged into equipment or containers over the period p sent to customers or sent off-site for other purposes including for recycling, for destruction or to be returned to suppliers.

M_{mr} = The mass of the SF_6 or the PFC that has flowed through the flowmeter during the period p.

E_L = The mass of SF_6 or the PFC emitted during the period p downstream of the containers used to fill equipment or cylinders and in cases where a flowmeter is used, downstream of the flowmeter during the period p (e.g., emissions from hoses or other flow lines that connect the container to the equipment that is being filled).

(g) Estimate the mass of SF_6 or the PFC emitted during the period p downstream of the containers used to fill equipment or cylinders (e.g., emissions from hoses or other flow lines that connect the container to the equipment or cylinder that is being filled) using Equation SS–5 of this section:

$$E_L = \sum_{i=1}^{n} F_{Ci} \times EF_{Ci} \quad \text{(Eq. SS-5)}$$

where:

E_L = The mass of SF_6 or the PFC emitted during the period p downstream of the containers used to fill equipment or cylinders and in cases where a flowmeter is used, downstream of the flowmeter during the period p (e.g., emissions from hoses or other flow lines that connect the container to the equipment or cylinder that is being filled)

F_{Ci} = The total number of fill operations over the period p for the valve-hose combination Ci.

EF_{Ci} = The emission factor for the valve-hose combination Ci.

n = The number of different valve-hose combinations C used during the period p.

(h) If the mass of SF_6 or the PFC disbursed to customers in new equipment or cylinders over the period p is determined by using the nameplate capacity, or by using the nameplate capacity of the equipment and calculating the partial shipping charge, use the methods in either paragraph (h)(1) or (h)(2) of this section.

(1) Determine the equipment's actual nameplate capacity, by measuring the nameplate capacities of a representative sample of each make and model and calculating the mean value for each make and model as specified at § 98.454(f).

(2) If equipment is shipped with a partial charge, calculate the partial shipping charge by multiplying the nameplate capacity of the equipment by the ratio of the densities of the partial charge to the full charge.

(i) Estimate the annual SF_6 and PFC emissions from the equipment that is installed at an off-site electric power transmission or distribution location before the title to the equipment is transferred by using Equation SS–6 of this section:

$$EI = M_F + M_c - N_I \quad \text{(Eq. SS-6)}$$

where:

EI = Total annual SF_6 or PFC emissions from equipment installation at electric transmission or distribution facilities.

MF = The total annual mass of the SF6 or PFCs, in pounds, used to fill equipment during equipment installation at electric transmission or distribution facilities.

MC = The total annual mass of the SF_6 or PFCs, in pounds, used to charge the equipment prior to leaving the electrical equipment manufacturer facility.

NI = The total annual nameplate capacity of the equipment, in pounds, installed at electric transmission or distribution facilities.

[75 FR 75078, Dec. 1, 2010, as amended at 78 FR 71979, Nov. 29, 2013]

§ 98.454 Monitoring and QA/QC requirements.

(a) For calendar year 2011 monitoring, you may follow the provisions of § 98.3(d)(1) through (d)(2) for best available monitoring methods rather than follow the monitoring requirements of this section. For purposes of this subpart, any reference in § 98.3(d)(1) through (d)(2) to 2010 means 2011, March 31 means June 30, and April 1 means July 1. Any reference to the effective date in § 98.3(d)(1) through (d)(2) means February 28, 2011.

(b) Ensure that all the quantities required by the equations of this subpart have been measured using either flowmeters with an accuracy and precision of ±1 percent of full scale or better or scales with an accuracy and precision of ±1 percent of the filled weight (gas plus tare) of the containers of SF_6 or PFCs that are typically weighed on the scale. For scales that are generally used to weigh cylinders containing 115 pounds of gas when full, this equates to ±1 percent of the sum of 115 pounds and approximately 120 pounds tare, or slightly more than ±2 pounds. Account for the tare weights of the containers. You may accept gas masses or weights provided by the gas supplier e.g., for the contents of cylinders containing new gas or for the heels remaining in cylinders returned to the gas supplier) if the supplier provides documentation verifying that accuracy standards are met; however, you remain responsible for the accuracy of these masses and weights under this subpart.

(c) All flow meters, weigh scales, and combinations of volumetric and density measures that are used to measure or calculate quantities under this subpart must be calibrated using calibration procedures specified by the flowmeter, scale, volumetric or density measure equipment manufacturer. Calibration must be performed prior to the first reporting year. After the initial calibration, recalibration must be performed at the minimum frequency specified by the manufacturer.

(d) For purposes of Equations SS–5 of this subpart, the emission factor for the valve-hose combination (EF_C) must be estimated using measurements and/or engineering assessments or calculations based on chemical engineering principles or physical or chemical laws or properties. Such assessments or calculations may be based on, as applicable, the internal volume of hose or line that is open to the atmosphere during coupling and decoupling activities, the internal pressure of the hose or line, the time the hose or line is open to the atmosphere during coupling and decoupling activities, the frequency with which the hose or line is purged and the flow rate during purges. You must develop a value for EF_c (or use an industry-developed value) for each combination of hose and valve fitting, to use in Equation SS–5 of this subpart. The value for EF_C must be determined for each combination of hose and valve fitting of a given diameter or size. The calculation must be recalculated annually to account for changes to the specifications of the valves or hoses that may occur throughout the year.

(e) Electrical equipment manufacturers and refurbishers must account for SF_6 or PFC emissions that occur as a result of unexpected events or accidental losses, such as a malfunctioning hose or leak in the flow line, during the filling of equipment or containers for disbursement by including these losses in the estimated mass of SF_6 or the

PFC emitted downstream of the container or flowmeter during the period p.

(f) If the mass of SF_6 or the PFC disbursed to customers in new equipment over the period p is determined by assuming that it is equal to the equipment's nameplate capacity or, in cases where equipment is shipped with a partial charge, equal to its partial shipping charge, equipment samples for conducting the nameplate capacity tests must be selected using the following stratified sampling strategy in this paragraph. For each make and model, group the measurement conditions to reflect predictable variability in the facility's filling practices and conditions (e.g., temperatures at which equipment is filled). Then, independently select equipment samples at random from each make and model under each group of conditions. To account for variability, a certain number of these measurements must be performed to develop a robust and representative average nameplate capacity (or shipping charge) for each make, model, and group of conditions. A Student T distribution calculation should be conducted to determine how many samples are needed for each make, model, and group of conditions as a function of the relative standard deviation of the sample measurements. To determine a sufficiently precise estimate of the nameplate capacity, the number of measurements required must be calculated to achieve a precision of one percent of the true mean, using a 95 percent confidence interval. To estimate the nameplate capacity for a given make and model, you must use the lowest mean value among the different groups of conditions, or provide justification for the use of a different mean value for the group of conditions that represents the typical practices and conditions for that make and model. Measurements can be conducted using SF_6, another gas, or a liquid. Re-measurement of nameplate capacities should be conducted every five years to reflect cumulative changes in manufacturing methods and conditions over time.

(g) Ensure the following QA/QC methods are employed throughout the year:

(1) Procedures are in place and followed to track and weigh all cylinders or other containers at the beginning and end of the year.

(h) You must adhere to the following QA/QC methods for reviewing the completeness and accuracy of reporting:

(1) Review inputs to Equation SS–1 of this subpart to ensure inputs and outputs to the company's system are included.

(2) Do not enter negative inputs and confirm that negative emissions are not calculated. However, the decrease in SF_6 inventory may be calculated as negative.

(3) Ensure that beginning-of-year inventory matches end-of-year inventory from the previous year.

(4) Ensure that in addition to SF_6 purchased from bulk gas distributors, SF_6 returned from equipment users with or inside equipment and SF_6 returned from off-site recycling are also accounted for among the total additions.

§ 98.455 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required. Replace missing data, if needed, based on data from similar manufacturing operations, and from similar equipment testing and decommissioning activities for which data are available.

§ 98.456 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the following information for each chemical at the facility level:

(a) Pounds of SF_6 and PFCs stored in containers at the beginning of the year.

(b) Pounds of SF_6 and PFCs stored in containers at the end of the year.

(c) Pounds of SF_6 and PFCs purchased in bulk.

(d) Pounds of SF_6 and PFCs returned by equipment users with or inside equipment.

(e) Pounds of SF_6 and PFCs returned to site from off site after recycling.

(f) Pounds of SF_6 and PFCs inside new equipment delivered to customers.

(g) Pounds of SF_6 and PFCs delivered to equipment users in containers.

(h) Pounds of SF_6 and PFCs returned to suppliers.

(i) Pounds of SF_6 and PFCs sent off site for destruction.

(j) Pounds of SF_6 and PFCs sent off site to be recycled.

(k) The nameplate capacity of the equipment, in pounds, delivered to customers with SF_6 or PFCs inside, if different from the quantity in paragraph (f) of this section.

(l) A description of the engineering methods and calculations used to determine emissions from hoses or other flow lines that connect the container to the equipment that is being filled.

(m) The values for EF_{ci} of Equation SS–5 of this subpart for each hose and valve combination and the associated valve fitting sizes and hose diameters.

(n) The total number of fill operations for each hose and valve combination, or, F_{Ci} of Equation SS–5 of this subpart.

(o) If the mass of SF_6 or the PFC disbursed to customers in new equipment over the period p is determined according to the methods required in § 98.453(h), report the mean value of nameplate capacity in pounds for each make, model, and group of conditions.

(p) If the mass of SF_6 or the PFC disbursed to customers in new equipment over the period p is determined according to the methods required in § 98.453(h), report the number of samples and the upper and lower bounds on the 95 percent confidence interval for each make, model, and group of conditions.

(q) Pounds of SF_6 and PFCs used to fill equipment at off-site electric power transmission or distribution locations, or M_F, of Equation SS–6 of this subpart.

(r) Pounds of SF_6 and PFCs used to charge the equipment prior to leaving the electrical equipment manufacturer or refurbishment facility, or M_C, of Equation SS–6 of this subpart.

(s) The nameplate capacity of the equipment, in pounds, installed at off-site electric power transmission or distribution locations used to determine emissions from installation, or N_I, of Equation SS–6 of this subpart.

(t) For any missing data, you must report the reason the data were missing, the parameters for which the data were missing, the substitute parameters used to estimate emissions in their absence, and the quantity of emissions thereby estimated.

[75 FR 75078, Dec. 1, 2010, as amended at 78 FR 71979, Nov. 29, 2013]

§ 98.457 Records that must be retained.

In addition to the information required by § 98.3(g), you must retain the following records:

(a) All information reported and listed in § 98.456.

(b) Accuracy certifications and calibration records for all scales and monitoring equipment, including the method or manufacturer's specification used for calibration.

(c) Certifications of the quantity of gas, in pounds, charged into equipment at the electrical equipment manufacturer or refurbishment facility as well as the actual quantity of gas, in pounds, charged into equipment at installation.

(d) Check-out and weigh-in sheets and procedures for cylinders.

(e) Residual gas amounts, in pounds, in cylinders sent back to suppliers.

(f) Invoices for gas purchases and sales.

(g) GHG Monitoring Plans, as described in § 98.3(g)(5), must be completed by April 1, 2011.

§ 98.458 Definitions.

All terms used in this subpart have the same meaning given in the CAA and subpart A of this part.

Subpart TT—Industrial Waste Landfills

SOURCE: 75 FR 39773, July 12, 2010, unless otherwise noted.

§ 98.460 Definition of the source category.

(a) This source category applies to industrial waste landfills that accepted waste on or after January 1, 1980, and that are located at a facility whose total landfill design capacity is greater than or equal to 300,000 metric tons.

(b) *An industrial waste landfill* is a landfill other than a municipal solid

waste landfill, a RCRA Subtitle C hazardous waste landfill, or a TSCA hazardous waste landfill, in which industrial solid waste, such as RCRA Subtitle D wastes (non-hazardous industrial solid waste, defined in 40 CFR 257.2), commercial solid wastes, or conditionally exempt small quantity generator wastes, is placed. An industrial waste landfill includes all disposal areas at the facility.

(c) This source category does not include:

(1) Construction and demolition waste landfills.

(2) Industrial waste landfills that only receive one or more of the following inert waste materials:

(i) Coal combustion or incinerator ash (*e.g.*, fly ash).

(ii) Cement kiln dust.

(iii) Rocks and/or soil from excavation and construction and similar activities.

(iv) Glass.

(v) Non-chemically bound sand (*e.g.*, green foundry sand).

(vii) Clay, gypsum, or pottery cull.

(viii) Bricks, mortar, or cement.

(ix) Furnace slag.

(x) Materials used as refractory (*e.g.*, alumina, silicon, fire clay, fire brick).

(xi) Plastics (*e.g.*, polyethylene, polypropylene, polyethylene terephthalate, polystyrene, polyvinyl chloride).

(xii) Other waste material that has a volatile solids concentration of 0.5 weight percent (on a dry basis) or less.

(xiii) Other waste material that has a DOC value of 0.3 weight percent (on a wet basis) or less. DOC value must be determined using a 60-day anaerobic biodegradation test procedure identified in § 98.464(b)(4)(i).

(d) This source category consists of the following sources at industrial waste landfills: Landfills, gas collection systems at landfills, and destruction devices for landfill gases (including flares).

[75 FR 39773, July 12, 2010, as amended at 76 FR 73907, Nov. 29, 2011, 77 FR 51495, Aug. 24, 2012; 78 FR 71979, Nov. 29, 2013]

§ 98.461 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an industrial waste landfill meeting the criteria in § 98.460 and the facility meets the requirements of § 98.2(a)(2). For the purposes of § 98.2(a)(2), the emissions from the industrial waste landfill are to be determined using the methane generation corrected for oxidation as determined using Equation TT–6 of this subpart times the global warming potential for methane in Table A–1 of subpart A of this part.

§ 98.462 GHGs to report.

(a) You must report CH_4 generation and CH_4 emissions from industrial waste landfills.

(b) You must report CH_4 destruction resulting from landfill gas collection and destruction devices, if present.

(c) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO_2, CH_4, and N_2O from each stationary combustion unit associated with the landfill gas destruction device, if present, by following the requirements of subpart C of this part.

§ 98.463 Calculating GHG emissions.

(a) For each industrial waste landfill subject to the reporting requirements of this subpart, calculate annual modeled CH_4 generation according to the applicable requirements in paragraphs (a)(1) through (a)(3) of this section. Apply Equation TT–1 of this section for each waste stream disposed of in the landfill and sum the CH_4 generation rates for all waste streams disposed of in the landfill to calculate the total annual modeled CH_4 generation rate for the landfill.

(1) Calculate annual modeled CH_4 generation using Equation TT–1 of this section.

$$G_{CH4} = \left[\sum_{x=S}^{T-1} \left\{ W_x \times DOC_x \times MCF \times DOC_F \times F \times \frac{16}{12} \times \left(e^{-k(T-x-1)} - e^{-k(T-x)} \right) \right\} \right] \quad \text{(Eq. TT-1)}$$

Where:

G_{CH4} = Modeled methane generation in reporting year T (metric tons CH_4).

X = Year in which waste was disposed.

S = Start year of calculation. Use the year 1960 or the opening year of the landfill, whichever is more recent.

T = Reporting year for which emissions are calculated.

W_X = Quantity of waste disposed in the industrial waste landfill in year X from measurement data and/or other company records (metric tons, as received (wet weight)).

DOC_X = Degradable organic carbon for waste disposed in year X from Table TT–1 to this subpart or from measurement data [as specified in paragraph (a)(3) of this section], if available [fraction (metric tons C/metric ton waste)].

DOC_F = Fraction of DOC dissimilated (fraction); use the default value of 0.5. If measured values of DOC are available using the 60-day anaerobic biodegradation test procedure identified in § 98.464(b)(4)(i), use a default value of 1.0.

MCF = Methane correction factor (fraction). Use the default value of 1 unless there is active aeration of waste within the landfill during the reporting year. If there is active aeration of waste within the landfill during the reporting year, use either the default value of 1 or select an alternative value no less than 0.5 based on site-specific aeration parameters.

F = Fraction by volume of CH_4 in landfill gas (fraction, dry basis, corrected to 0% oxygen). If you have a gas collection system, use the annual average CH_4 concentration from measurement data for the current reporting year; otherwise, use the default value of 0.5.

k = Decay rate constant from Table TT–1 to this subpart (yr^{-1}). Select the most applicable k value for the majority of the past 10 years (or operating life, whichever is shorter).

(2) *Waste stream quantities.* Determine annual waste quantities as specified in paragraphs (a)(2)(i) through (ii) of this section for each year starting with January 1, 1960 or the year the landfills first accepted waste if after January 1, 1960, up until the most recent reporting year. The choice of method for determining waste quantities will vary according to the availability of historical data. Beginning in the first emissions reporting year (2011 or later) and for each year thereafter, use the procedures in paragraph (a)(2)(i) of this section to determine waste stream quantities. These procedures should also be used for any year prior to the first emissions reporting year for which the data are available. For other historical years, use paragraph (a)(2)(i) of this section, where waste disposal records are available, and use the procedures outlined in paragraph (a)(2)(ii) of this section when waste disposal records are unavailable, to determine waste stream quantities. Historical disposal quantities deposited (*i.e.*, prior to the first year in which monitoring begins) should only be determined once, as part of the first annual report, and the same values should be used for all subsequent annual reports, supplemented by the next year's data on new waste disposal.

(i) Determine the quantity of waste (in metric tons as received, *i.e.*, wet weight) disposed of in the landfill separately for each waste stream by any one or a combination of the following methods.

(A) Direct mass measurements.

(B) Direct volume measurements multiplied by waste stream density determined from periodic density measurement data or process knowledge.

(C) Mass balance procedures, determining the mass of waste as the difference between the mass of the process inputs and the mass of the process outputs.

(D) The number of loads (*e.g.*, trucks) multiplied by the mass of waste per load based on the working capacity of the container or vehicle.

(ii) Determine the historical disposal quantities for landfills using the Waste Disposal Factor approach in paragraphs (a)(2)(ii)(A) and (B) of this section when historical production or processing data are available. If production or processing data are available for a given year, you must use Equation TT–3 of this section for that year. Determine historical disposal quantities using the method specified in paragraph (a)(2)(ii)(C) of this section when historical production or processing data are not available, and for waste streams received from an off-site facility when historical disposal quantities cannot be determined using the methods specified in paragraph (a)(2)(i) of this section.

(A) *Determining Waste Disposal Factor:* For each waste stream disposed of in the landfill, calculate the average

waste disposal rate per unit of production or unit throughput using all available waste quantity data and corresponding production or processing rates for the process generating that waste or, if appropriate, the facility, using Equation TT–2 of this section.

$$WDF = \left[\sum_{x=Y_1}^{Y_2} \left\{ \frac{W_x}{N \times P_x} \right\} \right] \qquad \text{(Eq. TT-2)}$$

Where:

WDF = Average waste disposal factor as determined for the first annual report required for this industrial waste landfill (metric tons per production unit).

X = Year in which waste was disposed. Include only those years for which disposal and production data are both available; the years do not need to be sequential.

Y_1 = First year in which disposal and production/throughput data are both available.

Y_2 = First year for which GHG emissions from this industrial waste landfill must be reported.

N = Number of years for which disposal and production/throughput data are both available.

W_x = Quantity of waste placed in the industrial waste landfill in year X from measurement data and/or other company records (metric tons, as received (wet weight)).

P_x = Quantity of product produced or feedstock entering the process or facility in year X from measurement data and/or other company records (production units). You must use the same basis for all years in the calculation. That is, P_x must be determined based on production (quantity of product produced) for all ''N'' years or P_x must be determined based on throughput (quantity of feedstock) for all ''N'' years.

(B) *Calculate waste:* For each waste stream disposed of in the landfill, calculate the waste disposal quantities for historic years in which direct waste disposal measurements are not available using historical production data and Equation TT–3 of this section.

$$W_x = WDF \times P_x \qquad \text{(Eq. TT-3)}$$

Where:

X = Historic year in which waste was disposed.

W_x = Calculated quantity of waste placed in the landfill in year X (metric tons).

WDF = Average waste disposal factor from Equation TT–2 of this section (metric tons per production unit).

P_x = Quantity of product produced or feedstock entering the process or facility in year X from measurement data and/or other company records (production units). You must use the same basis for P_x (either production only or throughput only) as used to determine WDF in Equation TT–2 of this section.

(C) For any year in which historic production or processing data are not available such that historic waste quantities cannot be estimated using Equation TT–3 of this section, calculate an average annual bulk waste disposal quantity using either Equation TT–4a of this section when data are available consecutively for the most recent disposal years or Equation TT–4b of this section when data are available for sporadic (non-consecutive) years.

$$W_x = \frac{LFC}{(YrData - YrOpen + 1)} \qquad \text{(Eq. TT-4a)}$$

Where:

W_X = Quantity of waste placed in the landfill in year X (metric tons, wet basis). This annual bulk waste disposal quantity applies for all years from ''YrOpen'' to ''YrData'' inclusive.

LFC = Capacity of the landfill used (or the total quantity of waste-in-place) at the end of the ''YrData'' from design drawings or engineering estimates (metric tons). For closed landfills for which waste quantity data are not available, use the landfill's design capacity.

YrData = The year prior to the year when waste disposal data are first available for all subsequent years from company records or from Equation TT–3 of this section. For landfills for which waste quantity data are not available, the year in which the landfill last received waste.

YrOpen = Year 1960 or the year in which the landfill first received waste from company records, whichever is more recent. If no data are available for estimating

YrOpen for a closed landfill, use 1960 as the default ''YrOpen'' for the landfill.

$$W_x = \frac{WIP - \sum_{n-1}^{NYrData} W_{meas,n}}{(YrLast - YrOpen + 1 - NYrData)} \qquad \text{(Eq. TT-4b)}$$

Where:

W_X = Quantity of waste placed in the landfill in year X (metric tons, wet basis). This annual bulk waste disposal quantity applies for all years for which waste quantity data are not available from company records or from Equation TT–3 of this section.

WIP = Quantity of waste in-place at the start of the reporting year from design drawings or engineering estimates (metric tons). For closed landfills for which waste in-place quantities are not available, use the landfill's design capacity.

$W_{meas,n}$ = Annual quantity of waste placed in the landfill for the nth measurement year from company records or from Equation TT–3 of this section.

YrLast = The last year, prior to the reporting year, that the landfill received waste.

YrOpen = Year 1960 or the year in which the landfill first received waste from company records, whichever is more recent. If no data are available for estimating YrOpen for a closed landfill, use 1960 as the default ''YrOpen'' for the landfill.

NYrData = The number of years for which annual waste disposal quantities are available from company records or from Equation TT–3 of this section from YrOpen to YrLast inclusive.

(3) *Degradable organic content (DOC).* For any year, X, in Equation TT–1 of this section, use either the applicable default DOC values provided in Table TT–1 of this subpart or determine values for DOC_x as specified in paragraphs (a)(3)(i) through (iv) of this section. When developing historical waste quantity data, you may use default DOC values from Table TT–1 of this subpart for certain years and determined values for DOC_x for other years. The historical values for DOC or DOC_x must be developed only for the first annual report required for the industrial waste landfill; and used for all subsequent annual reports (*e.g.*, if DOC for year x=1990 was determined to be 0.15 in the first reporting year, you must use 0.15 for the 1990 DOC value for all subsequent annual reports).

(i) For the first year in which GHG emissions from this industrial waste landfill must be reported, determine the DOC_x value of each waste stream disposed of in the landfill no less frequently than once per quarter using the methods specified in § 98.464(b). Calculate annual DOC_x for each waste stream as the arithmetic average of all DOC_x values for that waste stream that were measured during the year.

(ii) For subsequent years (after the first year in which GHG emissions from this industrial waste landfill must be reported), either use the DOC_x of each waste stream calculated for the most recent reporting year for which DOC values were determined according to paragraph (a)(3)(i) of this section, or determine new DOC values for that year following the requirements in paragraph (a)(3)(i) of this section. You must determine new DOC values following the requirements in paragraph (a)(3)(i) of this section if changes in the process operations occurred during the previous reporting year that can reasonably be expected to alter the characteristics of the waste stream, such as the water content or volatile solids concentration. Should changes to the waste stream occur, you must revise the GHG Monitoring Plan as required in § 98.3(g)(5)(iii) and report the new DOC_x value according to the requirements of § 98.466.

(iii) If DOC_x measurement data for each waste stream are available according to the methods specified in § 98.464(b) for years prior to the first year in which GHG emissions from this industrial waste landfill must be reported, determine DOC_x for each waste stream as the arithmetic average of all DOC_x values for that waste stream that were measured in Year X. A single

measurement value is acceptable for determining DOC_x for years prior to the first reporting year.

(iv) For historical years for which DOC_x measurement data, determined according to the methods specified in § 98.464(b), are not available, determine the historical values for DOC_x using the applicable methods specified in paragraphs (a)(3)(iv)(A) and (B) of this section. Determine these historical values for DOC_x only for the first annual report required for this industrial waste landfill; historical values for DOC_x calculated for this first annual report should be used for all subsequent annual reports.

(A) For years in which waste stream-specific disposal quantities are determined (as required in paragraphs (a)(2)(ii)(A) and (B) of this section), calculate the average DOC value for a given waste stream as the arithmetic average of all DOC measurements of that waste stream that follow the methods provided in § 98.464(b), including any measurement values for years prior to the first reporting year and the four measurement values required in the first reporting year. Use the resulting waste-specific average DOC value for all applicable years (*i.e.*, years in which waste stream-specific disposal quantities are determined) for which direct DOC measurement data are not available.

(B) For years for which bulk waste disposal quantities are determined according to paragraphs (a)(2)(ii)(C) of this section, calculate the weighted average bulk DOC value according to the following: Calculate the average DOC value for each waste stream as the arithmetic average of all DOC measurements of that waste stream that follows the methods provided in § 98.464(b) (generally, this will include only the DOC values determined in the first year in which GHG emissions from this industrial waste landfill must be reported); calculate the average annual disposal quantity for each waste stream as the arithmetic average of the annual disposal quantities for each year in which waste stream-specific disposal quantities have been determined; and calculate the bulk waste DOC value using Equation TT–5 of this section. Use the bulk waste DOC value as DOC_x for all years for which bulk waste disposal quantities are determined according to paragraphs (a)(2)(ii)(C) of this section.

$$DOC_{bulk} = \frac{\sum_{n=1}^{N}\left(DOC_{ave,n} \times W_{ave,n}\right)}{\sum_{n=1}^{N} W_{ave,n}} \qquad \text{(Eq. TT-5)}$$

Where:

DOC_{bulk} = Degradable organic content value for bulk historical waste placed in the landfill (mass fraction).

N = Number of different waste streams placed in the landfill.

n = Index for waste stream.

$DOC_{ave,n}$ = Average degradable organic content value for waste stream ''n'' based on available measurement data (mass fraction).

$W_{ave,n}$ = Average annual quantity of waste stream ''n'' placed in the landfill for years in which waste stream-specific disposal quantities have been determined (metric tons per year, wet basis).

(b) For each landfill, calculate CH_4 generation (adjusted for oxidation in cover materials) and CH_4 emissions (taking into account any CH_4 recovery, if applicable, and oxidation in cover materials) according to the applicable methods in paragraphs (b)(1) through (b)(3) of this section.

(1) For each landfill, calculate CH_4 generation, adjusted for oxidation, from the modeled CH_4 (G_{CH_4} from Equation TT–1 of this section) using Equation TT–6 of this section.

$$MG = G_{CH4} \times (1 - OX) \qquad \text{(Eq. TT-6)}$$

Where:

MG = Methane generation, adjusted for oxidation, from the landfill in the reporting year (metric tons CH_4).

G_{CH_4} = Modeled methane generation rate in reporting year from Equation TT–1 of this section (metric tons CH_4).

OX = Oxidation fraction from Table HH–4 of subpart HH of this part.

(2) For landfills that do not have landfill gas collection systems operating during the reporting year, the CH_4 emissions are equal to the CH_4 generation (MG) calculated in Equation TT–6 of this section.

(3) For landfills with landfill gas collection systems in operation during any portion of the reporting year, perform all of the calculations specified in paragraphs (b)(3)(i) through (iv) of this section.

(i) Calculate the quantity of CH_4 recovered according to the requirements at § 98.343(b).

(ii) Calculate CH_4 emissions using the Equation HH–6 of § 98.343(c)(3)(i), except use G_{CH_4} determined using Equation TT–1 of this section in Equation HH–6 of § 98.343(c)(3)(i).

(iii) Calculate CH_4 generation (MG) from the quantity of CH_4 recovered using Equation HH–7 of § 98.343(c)(3)(ii).

(iv) Calculate CH_4 emissions from the quantity of CH_4 recovered using Equation HH–8 of § 98.343(c)(3)(ii).

[75 FR 39773, July 12, 2010, as amended at 76 FR 73907, Nov. 29, 2011; 78 FR 71979, Nov. 29, 2013]

§ 98.464 Monitoring and QA/QC requirements.

(a) For calendar year 2011 monitoring, the facility may submit a request to the Administrator to use one or more best available monitoring methods as listed in § 98.3(d)(1)(i) through (iv). The request must be submitted no later than October 12, 2010 and must contain the information in § 98.3(d)(2)(ii). To obtain approval, the request must demonstrate to the Administrator's satisfaction that it is not reasonably feasible to acquire, install, and operate a required piece of monitoring equipment by January 1, 2011. The use of best available monitoring methods will not be approved beyond December 31, 2011.

(b) For each waste stream placed in the landfill during the reporting year for which you choose to determine volatile solids concentration and/or a waste stream-specific DOC_X, you must collect and test a representative sample of that waste stream using the methods specified in paragraphs (b)(1) through (b)(4) of this section, as applicable.

(1) Develop and follow a sampling plan to collect a representative sample (in terms of composition and moisture content) of each waste stream placed in the landfill for which testing is elected.

(2) Determine the percent total solids and the percent volatile solids of each sample following Standard Method 2540G ''Total, Fixed, and Volatile Solids in Solid and Semisolid Samples'' (incorporated by reference; *see* § 98.7).

(3) For the purposes of § 98.460(c)(2)(xii), the volatile solids concentration (weight percent on a dry basis) is the percent volatile solids determined using Standard Method 2540G ''Total, Fixed, and Volatile Solids in Solid and Semisolid Samples'' (incorporated by reference; see § 98.7).

(4) Determine DOC value of a waste stream by either using at least a 60-day anaerobic biodegradation test as specified in paragraph (b)(4)(i) of this section or by estimating the DOC value based on the total and volatile solids measurements as specified in paragraph (b)(4)(ii) of this section.

(i) Perform an anaerobic biodegradation test and determine the DOC value of a waste stream following the procedures and requirements in paragraphs (b)(4)(i)(A) through (E) of this section.

(A) You may use the procedures published by a consensus-based standards organization to conduct a minimum of a 60-day anaerobic biodegradation test. Consensus-based standards organizations include, but are not limited to, the following: ASTM International (100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, *http://www.astm.org*), the American National Standards Institute (ANSI, 1819 L Street, NW., 6th floor, Washington, DC 20036, (202) 293–8020, *http://www.ansi.org*), the American Society of Mechanical Engineers (ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763,

http://www.asme.org), and the North American Energy Standards Board (NAESB, 801 Travis Street, Suite 1675, Houston, TX 77002, (713) 356–0060, *http://www.api.org*).

(B) Use a minimum of four samples: Two waste stream samples, a control sample using a known substrate (such as ethanol), and a digester sludge blank sample. Each waste stream sample must be appropriately ground to ensure the waste material is fully exposed to the anaerobic digester sludge.

(C) Determine the net mass of carbon degraded in the control sample as the difference in the results of the control sample and the digester sludge blank sample. Determine the net mass of carbon degraded in each waste stream sample as the difference in the results of each waste stream sample and the digester sludge blank sample.

(D) Determine the fraction of carbon degraded in the control sample as the net mass of carbon degraded in the control sample divided by the mass of carbon added via the substrate material in the control sample. If less than 50 percent of the theoretical mass of carbon in the control sample is degraded, the test run is invalid.

(E) Determine the DOC of each waste sample using Equation TT–7 of this section. If the DOC values for the two waste stream samples differ by more than 20 percent, the test run is invalid. The DOC of the waste stream is determined as the average DOC value of the two waste stream samples determined during a valid test.

$$DOC_x = \frac{MCD_{sample,x}}{M_{sample,x}} \qquad \text{(Eq. TT-7)}$$

Where:

DOC_X = Degradable organic content of the waste stream in Year X (weight fraction, wet basis)

$MCD_{sample,x}$ = Mass of carbon degraded in the waste stream sample in Year X as determined in paragraph (b)(4)(i)(C) of this section [milligrams (mg)].

$M_{sample,x}$ = Mass of waste stream sample used in the anaerobic degradation test in Year X (mg, wet basis).

(ii) Calculate the waste stream-specific DOC_X value using Equation TT–8 of this section.

$$DOC_x = F_{DOC} \times \frac{\%\ \text{Volatile Solids}_x}{100\%} \times \frac{\%\ \text{Total Solids}_x}{100\%} \qquad \text{(Eq. TT-8)}$$

Where:

DOC_X = Degradable organic content of waste stream in Year X (weight fraction, wet basis)

F_{DOC} = Fraction of the volatile residue that is degradable organic carbon (weight fraction). Use a default value of 0.6.

% Volatile $Solids_X$ = Percent volatile solids determined using Standard Method 2540G Total, ''Fixed, and Volatile Solids in Solid and Semisolid Samples'' (incorporated by reference; see §98.7) for Year X [milligrams (mg) volatile solids per 100 mg dried solids].

% Total $Solids_X$ = Percent total solids determined using Standard Method 2540G ''Total, Fixed, and Volatile Solids in Solid and Semisolid Samples'' (incorporated by reference; see §98.7) for Year X (mg dried solids per 100 mg wet waste).

(c) For each waste stream that was historically managed in the landfill for which you choose to determine volatile solids concentration and/or a waste stream-specific DOC_X, you must determine volatile solids concentration or DOC_X of the waste stream as initially placed in the landfill using the methods specified in paragraph (c)(1) or (2) of this section, as applicable.

(1) If you can identify a similar waste stream to the waste stream that was historically managed in the landfill, you must determine the volatile solids

concentration or DOC_X of the similar waste stream using the applicable procedures in paragraphs (b)(1) through (4) of this section.

(2) If you cannot identify a similar waste stream to the waste stream that was historically managed in the landfill, you may determine the volatile solids concentration or DOC_X of the historically managed waste stream using process knowledge. You must document the basis for the volatile solids concentration or DOC_X value as determined through process knowledge.

(d) For landfills with gas collection systems, operate, maintain, and calibrate a gas composition monitor capable of measuring the concentration of CH_4 according to the requirements specified at § 98.344(b).

(e) For landfills with gas collection systems, install, operate, maintain, and calibrate a gas flow meter capable of measuring the volumetric flow rate of the recovered landfill gas according to the requirements specified at § 98.344(c).

(f) For landfills with gas collection systems, all temperature, pressure, and if applicable, moisture content monitors must be calibrated using the procedures and frequencies specified by the manufacturer.

(g) For landfills electing to measure the fraction by volume of CH_4 in landfill gas (F), follow the requirements in paragraphs (g)(1) and (g)(2) of this section.

(1) Use a gas composition monitor capable of measuring the concentration of CH_4 on a dry basis that is properly operated, calibrated, and maintained according to the requirements specified at § 98.344(b). You must either use a gas composition monitor that is also capable of measuring the O_2 concentration correcting for excess (infiltration) air or you must operate, maintain, and calibrate a second monitor capable of measuring the O_2 concentration on a dry basis according to the manufacturer's specifications.

(2) Use Equation TT–9 of this section to correct the measured CH_4 concentration to 0% oxygen. If multiple CH_4 concentration measurements are made during the reporting year, determine F separately for each measurement made during the reporting year, and use the results to determine the arithmetic average value of F for use in Equation TT–1 of this part.

$$F = \left(\frac{C_{CH4}}{100\%}\right) \times \left[20.9_c \Big/ \left(20.9 - \%O_2\right) \right] \qquad \text{(Eq. TT-9)}$$

Where:

F = Fraction by volume of CH_4 in landfill gas (fraction, dry basis, corrected to 0% oxygen).

C_{CH4} = Measured CH_4 concentration in landfill gas (volume %, dry basis).

20.9_c = Defined O_2 correction basis, (volume %, dry basis).

20.9 = O_2 concentration in air (volume %, dry basis).

$\%O_2$ = Measured O_2 concentration in landfill gas (volume %, dry basis).

(h) The facility shall document the procedures used to ensure the accuracy of the estimates of disposal quantities and, if the industrial waste landfill has a gas collection system, gas flow rate, gas composition, temperature, pressure, and moisture content measurements. These procedures include, but are not limited to, calibration of weighing equipment, fuel flow meters, and other measurement devices. The estimated accuracy of measurements made with these devices shall also be recorded, and the technical basis for these estimates shall be provided.

[75 FR 39773, July 12, 2010, as amended at 76 FR 73908, Nov. 29, 2011; 77 FR 51495, Aug. 24, 2012; 78 FR 71979, Nov. 29, 2013]

§ 98.465 Procedures for estimating missing data.

(a) A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable (*e.g.*, if a meter malfunctions during unit operation or if a required fuel sample is

not taken), a substitute data value for the missing parameter shall be used in the calculations, in accordance with paragraph (b) of this section.

(b) For industrial waste landfills with gas collection systems, follow the procedures for estimating missing data specified in § 98.345(a) and (b).

§ 98.466 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the following information for each landfill.

(a) Report the following general landfill information:

(1) A classification of the landfill as ''open'' (actively received waste in the reporting year) or ''closed'' (no longer receiving waste).

(2) The year in which the landfill first started accepting waste for disposal.

(3) The last year the landfill accepted waste (for open landfills, enter the estimated year of landfill closure).

(4) The capacity (in metric tons) of the landfill.

(5) An indication of whether leachate recirculation is used during the reporting year and its typical frequency of use over the past 10 years (*e.g.*, used several times a year for the past 10 years, used at least once a year for the past 10 years, used occasionally but not every year over the past 10 years, not used).

(b) Report the following waste characterization and modeling information:

(1) The number of waste steams (including ''Other Industrial Solid Waste (not otherwise listed)'' and ''Inerts'') for which Equation TT–1 of this subpart is used to calculate modeled CH_4 generation.

(2) A description of each waste stream (including the types of materials in each waste stream) for which Equation TT–1 of this subpart is used to calculate modeled CH_4 generation.

(3) The fraction of CH_4 in the landfill gas, F, (volume fraction, dry basis, corrected to 0% oxygen) for the reporting year and an indication as to whether this was the default value or a value determined through measurement data.

(4) The methane correction factor (MCF) value used in the calculations. If an MCF value other than the default of 1 is used, provide a description of the aeration system, including aeration blower capacity, the fraction of the landfill containing waste affected by the aeration, the total number of hours during the year the aeration blower was operated, and other factors used as a basis for the selected MCF value.

(5) For each waste stream, the decay rate (k) value used in the calculations.

(c) Report the following historical waste information:

(1) [Reserved]

(2) For each waste stream identified in paragraph (b) of this section, the method(s) for estimating historical waste disposal quantities and the range of years for which each method applies.

(3) For each waste stream identified in paragraph (b) of this section for which Equation TT–2 of this subpart is used, provide:

(i) [Reserved]

(ii) The year of the data used in Equation TT–2 of § 98.463 for the waste disposal quantity and production quantity, for each year used in Equation TT–2 to calculate the average waste disposal factor (WDF).

(iii) [Reserved]

(4) If Equation TT–4a of this subpart is used, provide:

(i) The value of landfill capacity (LFC).

(ii) YrData.

(iii) YrOpen.

(5) If Equation TT–4b of this subpart is used, provide:

(i) WIP (i.e., the quantity of waste in-place at the start of the reporting year from design drawings or engineering estimates (metric tons) or, for closed landfills for which waste in-place quantities are not available, the landfill's design capacity).

(ii) The cumulative quantity of waste placed in the landfill for the years for which disposal quantities are available from company record or from Equation TT–3 of this part.

(iii) YrLast.

(iv) YrOpen.

(v) NYrData.

(d) For each year of landfilling starting with the ''Start Year'' (S) and each year thereafter up to the current reporting year, report the following information:

(1) The calendar year for which the following data elements apply.

(2) The quantity of waste (W_X) disposed of in the landfill (metric tons, wet weight) for the specified year for each waste stream identified in paragraph (b) of this section.

(3) For each waste stream, the degradable organic carbon (DOC_X) value (mass fraction) for the specified year and an indication as to whether this was the default value from Table TT–1 to this subpart, a measured value using a 60-day anaerobic biodegradation test as specified in § 98.464(b)(4)(i), or a value based on total and volatile solids measurements as specified in § 98.464(b)(4)(ii). If DOC_X was determined by a 60-day anaerobic biodegradation test, specify the test method used.

(e) Report the following information describing the landfill cover material:

(1) The type of cover material used (as either organic cover, clay cover, sand cover, or other soil mixtures).

(2) For each type of cover material used, the surface area (in square meters) at the start of the reporting year for the landfill sections that contain waste and that are associated with the selected cover type.

(f) The modeled annual methane generation (G_{CH4}) for the reporting year (metric tons CH_4) calculated using Equation TT–1 of this subpart.

(g) For landfills without gas collection systems, provide:

(1) The annual methane emissions (*i.e.*, the methane generation (MG), adjusted for oxidation, calculated using Equation TT–6 of this subpart), reported in metric tons CH_4.

(2) An indication of whether passive vents and/or passive flares (vents or flares that are not considered part of the gas collection system as defined in § 98.6) are present at this landfill.

(h) For landfills with gas collection systems, in addition to the reporting requirements in paragraphs (a) through (f) of this section, provide:

(1) The annual methane generation, adjusted for oxidation, calculated using Equation TT–6 of this subpart, reported in metric tons CH_4.

(2) The oxidation factor used in Equation TT–6 of this subpart.

(3) All information required under 40 CFR 98.346(i)(1) through (7) and 40 CFR 98.346(i)(9) through (12).

[75 FR 39773, July 12, 2010, as amended at 76 FR 73909, Nov. 29, 2011; 78 FR 71980, Nov. 29, 2013; 79 FR 63799, Oct. 24, 2014]

§ 98.467 Records that must be retained.

(a) The calibration records for all monitoring equipment, including the method or manufacturer's specification used for calibration, and all measurement data used for the purposes of § 98.460(c)(2)(xii) or (xiii) or used to determine waste stream-specific DOC_X values for use in Equation TT–1 of § 98.463.

(b) *Verification software records.* You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (b)(1) and (2) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (b)(1) and (2) of this section.

(1) Quantity of each product produced or feedstock entering the process or facility per waste stream per year, from measurement data and/or other company records. You must use the same basis for all years in the calculation (i.e., based on production or based on quantity of feedstock) (metric tons) (Equation TT–2 of § 98.463).

(2) [Reserved]

[79 FR 63799, Oct. 24, 2014]

§ 98.468 Definitions.

Except as provided below, all terms used in this subpart have the same meaning given in the CAA and subpart A of this part.

Construction and demolition (C&D) waste landfill means a solid waste disposal facility subject to the requirements of subparts A or B of part 257 of this chapter that receives construction and demolition waste and does not receive hazardous waste (defined in § 261.3 of this chapter) or industrial solid waste (defined in § 258.2 of this chapter) or municipal solid waste (defined in § 98.6 of this part) other than residential lead-based paint waste. A C&D waste landfill typically receives any one or more of the following types of

solid wastes: roadwork material, excavated material, demolition waste, construction/renovation waste, and site clearance waste.

Design capacity means the maximum amount of solid waste a landfill can accept. For the purposes of this subpart, for landfills that have a permit, the *design capacity* can be determined in terms of volume or mass in the most recent permit issued by the state, local, or Tribal agency responsible for regulating the landfill, plus any in-place waste not accounted for in the most recent permit. If the owner or operator chooses to convert the design capacity from volume to mass to determine its design capacity, the calculation must include a site-specific density. If the design capacity is within 10 percent of the applicability threshold in §98.460(a) and there is a change in the production process that can reasonably be expected to change the site-specific waste density, the site-specific waste density must be redetermined and the design capacity must be recalculated based on the new waste density.

Industrial sludge means the residual, semi-solid material left from industrial wastewater treatment processes or wet air pollution control devices (e.g., wet scrubbers). *Industrial sludge* includes underflow material collected in primary or secondary clarifiers, settling basins, or precipitation tanks as well as dredged materials from wastewater tanks or impoundments. *Industrial sludge* also includes the semi-solid materials remaining after these materials are dewatered via a belt process, centrifuge, or similar dewatering process.

Solid waste has the meaning established by the Administrator pursuant to the Solid Waste Disposal Act (42 U.S.C.A. 6901 *et seq.*).

Waste stream means industrial solid waste material that is generated by a specific manufacturing process or client. For wastes generated at the facility that includes the industrial waste landfill, a waste stream is the industrial solid waste material generated by a specific processing unit at that facility. For industrial solid wastes that are received from off-site facilities, a waste stream can be defined as each waste shipment or group of waste shipments received from a single client or group of clients that produce industrial solid wastes with similar waste properties.

[75 FR 39773, July 12, 2010, as amended at 76 FR 73910, Nov. 29, 2011; 78 FR 71980, Nov. 29, 2013]

TABLE TT–1 TO SUBPART TT OF PART 98—DEFAULT DOC AND DECAY RATE VALUES FOR INDUSTRIAL WASTE LANDFILLS

Industry/Waste Type	DOC (weight fraction, wet basis)	k [dry climate[a]] (yr^{-1})	k [moderate climate[a]] (yr^{-1})	k [wet climate[a]] (yr^{-1})
Food Processing (other than industrial sludge)	0.22	0.06	0.12	0.18
Pulp and Paper (other than industrial sludge)	0.20	0.02	0.03	0.04
Wood and Wood Product (other than industrial sludge)	0.43	0.02	0.03	0.04
Construction and Demolition	0.08	0.02	0.03	0.04
Industrial Sludge	0.09	0.02	0.04	0.06
Inert Waste [*i.e.*, wastes listed in §98.460(c)(2)]	0	0	0	0
Other Industrial Solid Waste (not otherwise listed)	0.20	0.02	0.04	0.06

[a] The applicable climate classification is determined based on the annual rainfall plus the recirculated leachate application rate. Recirculated leachate application rate (in inches/year) is the total volume of leachate recirculated from company records or engineering estimates and applied to the landfill divided by the area of the portion of the landfill containing waste [with appropriate unit conversions].

(1) Dry climate = precipitation plus recirculated leachate less than 20 inches/year

(2) Moderate climate = precipitation plus recirculated leachate from 20 to 40 inches/year (inclusive)

(3) Wet climate = precipitation plus recirculated leachate greater than 40 inches/year

Alternatively, landfills that use leachate recirculation can elect to use the k value for wet climate rather than calculating the recirculated leachate rate.

(1) Dry climate = precipitation plus recirculated leachate less than 20 inches/year.

(2) Moderate climate = precipitation plus recirculated leachate from 20 to 40 inches/year (inclusive).

(3) Wet climate = precipitation plus recirculated leachate greater than 40 inches/year.

[75 FR 39773, July 12, 2010, as amended at 76 FR 73910, Nov. 29, 2011; 78 FR 71981, Nov. 29, 2013]

Subpart UU—Injection of Carbon Dioxide

SOURCE: 75 FR 75086, Dec. 1, 2010, unless otherwise noted.

§ 98.470 Definition of the source category.

(a) The injection of carbon dioxide (CO_2) source category comprises any well or group of wells that inject a CO_2 stream into the subsurface.

(b) If you report under subpart RR of this part for a well or group of wells, you are not required to report under this subpart for that well or group of wells.

(c) A facility that is subject to this part only because it is subject to subpart UU of this part is not required to report emissions under subpart C of this part or any other subpart listed in § 98.2(a)(1) or (a)(2).

§ 98.471 Reporting threshold.

(a) You must report under this subpart if your facility injects any amount of CO_2 into the subsurface.

(b) For purposes of this subpart, any reference to CO_2 emissions in § 98.2(i) shall mean CO_2 received.

§ 98.472 GHGs to report.

You must report the mass of CO_2 received.

§ 98.473 Calculating CO_2 received.

(a) You must calculate and report the annual mass of CO_2 received by pipeline using the procedures in paragraphs (a)(1) or (a)(2) of this section and the procedures in paragraph (a)(3) of this section, if applicable.

(1) For a mass flow meter, you must calculate the total annual mass of CO_2 in a CO_2 stream received in metric tons by multiplying the mass flow by the CO_2 concentration in the flow, according to Equation UU–1 of this section. You must collect these data quarterly. Mass flow and concentration data measurements must be made in accordance with § 98.474.

$$CO_{2T,r} = \sum_{p=1}^{4} (Q_{r,p} - S_{r,p}) * C_{CO_{2,p,r}} \qquad \text{(Eq. UU-1)}$$

where:

$CO_{2T,r}$ = Net annual mass of CO_2 received through flow meter r (metric tons).

$Q_{r,p}$ = Quarterly mass flow through a receiving flow meter r in quarter p (metric tons).

$S_{r,p}$ = Quarterly mass flow through a receiving flow meter r that is redelivered to another facility without being injected into your well in quarter p (metric tons).

$C_{CO2,p,r}$ = Quarterly CO_2 concentration measurement in flow for flow meter r in quarter p (wt. percent CO_2, expressed as a decimal fraction).

p = Quarter of the year.

r = Receiving flow meter.

(2) For a volumetric flow meter, you must calculate the total annual mass of CO_2 in a CO_2 stream received in metric tons by multiplying the volumetric flow at standard conditions by the CO_2 concentration in the flow and the density of CO_2 at standard conditions, according to Equation UU–2 of this section. You must collect these data quarterly. Volumetric flow and concentration data measurements must be made in accordance with § 98.474.

$$CO_{2T,r} = \sum_{p=1}^{4}(Q_{r,p} - S_{r,p}) * D * C_{CO_{2,p,r}} \quad \text{(Eq. UU-2)}$$

where:

$CO_{2T,r}$ = Net annual mass of CO_2 received through flow meter r (metric tons).

$Q_{r,p}$ = Quarterly volumetric flow through a receiving flow meter r in quarter p at standard conditions (standard cubic meters).

$S_{r,p}$ = Quarterly volumetric flow through a receiving flow meter r that is redelivered to another facility without being injected into your well in quarter p (standard cubic meters).

D = Density of CO_2 at standard conditions (metric tons per standard cubic meter): 0.0018682.

$C_{CO2,p,r}$ = Quarterly CO_2 concentration measurement in flow for flow meter r in quarter p (vol. percent CO_2, expressed as a decimal fraction).

p = Quarter of the year.

r = Receiving flow meter.

(3) If you receive CO_2 through more than one flow meter, you must sum the mass of all CO_2 received in accordance with the procedure specified in Equation UU–3 of this section.

$$CO_2 = \sum_{r=1}^{R} CO_{2T,r} \quad \text{(Eq. UU-3)}$$

where:

CO_2 = Total net annual mass of CO_2 received (metric tons).

$CO_{2T,r}$ = Net annual mass of CO_2 received (metric tons) as calculated in Equation UU–1 or UU–2 for flow meter r.

r = Receiving flow meter.

(b) You must calculate and report the annual mass of CO_2 received in containers using the procedures specified in either paragraph (b)(1) or (b)(2) of this section.

(1) If you are measuring the mass of contents in a container under the provisions of §98.474(a)(2)(i), you must calculate the CO_2 received in containers using Equation UU–1 of this section.

where:

$CO_{2T,r}$ = Annual mass of CO_2 received in containers r (metric tons).

$C_{CO2,p,r}$ = Quarterly CO_2 concentration measurement of contents in containers r in quarter p (wt. percent CO_2, expressed as a decimal fraction).

$Q_{r,p}$ = Quarterly mass of contents in containers r in quarter p (metric tons).

$S_{r,p}$ = Quarterly mass of contents in containers r that is redelivered to another facility without being injected into your well in quarter p (standard cubic meters).

p = Quarter of the year.

r = Containers.

(2) If you are measuring the volume of contents in a container under the provisions of §98.474(a)(2)(ii), you must calculate the CO_2 received in containers using Equation UU–2 of this section.

where:

$CO_{2T,r}$ = Annual mass of CO_2 received in containers r (metric tons).

$C_{CO2,p,r}$ = Quarterly CO_2 concentration measurement of contents in containers r in quarter p (vol. percent CO_2, expressed as a decimal fraction).

$S_{r,p}$ = Quarterly volume of contents in containers r that is redelivered to another facility without being injected into your well in quarter p (standard cubic meters).

$Q_{r,p}$ = Quarterly volume of contents in containers r in quarter p (standard cubic meters).

D = Density of the CO_2 received in containers at standard conditions (metric tons per standard cubic meter): 0.0018682.

p = Quarter of the year.

r = Containers.

[75 FR 75078, Dec. 1, 2010, as amended at 78 FR 71981, Nov. 29, 2013]

§98.474 Monitoring and QA/QC requirements.

(a) *CO_2 received.* (1) You must determine the quarterly flow rate of CO_2 received by pipeline by following the

most appropriate of the following procedures:

(i) You may measure flow rate at the receiving custody transfer meter prior to any subsequent processing operations at the facility and collect the flow rate quarterly.

(ii) If you took ownership of the CO_2 in a commercial transaction, you may use the quarterly flow rate data from the sales contract if it is a one-time transaction or from invoices or manifests if it is an ongoing commercial transaction with discrete shipments.

(iii) If you inject CO_2 from a production process unit that is part of your facility, you may use the quarterly CO_2 flow rate that was measured at the equivalent of a custody transfer meter following procedures provided in subpart PP of this part. To be the equivalent of a custody transfer meter, a meter must measure the flow of CO_2 being transported to an injection well to the same degree of accuracy as a meter used for commercial transactions.

(2) You must determine the quarterly mass or volume of contents in all containers if you receive CO_2 in containers by the most appropriate of the following procedures:

(i) You may measure the mass of contents of containers summed quarterly using weigh bills, scales, or load cells.

(ii) You may determine the volume of the contents of containers summed quarterly.

(iii) If you took ownership of the CO_2 in a commercial transaction, you may use the quarterly mass or volume of contents from the sales contract if it is a one-time transaction or from invoices or manifests if it is an ongoing commercial transaction with discrete shipments.

(3) You must determine a quarterly concentration of the CO_2 received that is representative of all CO_2 received in that quarter by following the most appropriate of the following procedures:

(i) You may sample the CO_2 stream at least once per quarter at the point of receipt and measure its CO_2 concentration.

(ii) If you took ownership of the CO_2 in a commercial transaction for which the sales contract was contingent on CO_2 concentration, and if the supplier of the CO_2 sampled the CO_2 stream in a quarter and measured its concentration per the sales contract terms, you may use the CO_2 concentration data from the sales contract for that quarter.

(iii) If you inject CO_2 from a production process unit that is part of your facility, you may report the quarterly CO_2 concentration of the CO_2 stream supplied that was measured following procedures provided in subpart PP of this part as the quarterly CO_2 concentration of the CO_2 stream received.

(4) You must assume that the CO_2 you receive meets the definition of a CO_2 stream unless you can trace it through written records to a source other than a CO_2 stream.

(b) *Measurement devices.* (1) All flow meters must be operated continuously except as necessary for maintenance and calibration.

(2) You must calibrate all flow meters used to measure quantities reported in § 98.476 according to the calibration and accuracy requirements in § 98.3(i).

(3) You must operate all measurement devices according to one of the following. You may use an appropriate standard method published by a consensus-based standards organization if such a method exists or an industry standard practice. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB).

(4) You must ensure that any flow meter calibrations performed are National Institute of Standards and Technology (NIST) traceable.

(c) *General.* (1) If you measure the concentration of any CO_2 quantity for reporting, you must measure according to one of the following. You may use an appropriate standard method published by a consensus-based standards organization if such a method exists or an industry standard practice.

(2) You must convert all measured volumes of CO_2 to the following standard industry temperature and pressure conditions for use in Equations UU–2 of this subpart: standard cubic meters at a temperature of 60 degrees Fahrenheit and at an absolute pressure of 1 atmosphere.

(3) For 2011, you may follow the provisions of § 98.3(d)(1) through (2) for best available monitoring methods rather than follow the monitoring requirements of this section. For purposes of this subpart, any reference to the year 2010 in § 98.3(d)(1) through (2) shall mean 2011.

§ 98.475 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG quantities calculations is required.

(a) Whenever the monitoring procedures for all facilities that used flow meters covered under this subpart cannot be followed to measure flow, the following missing data procedures must be followed:

(1) Another calculation methodology listed in § 98.474(a)(1) must be used if possible.

(2) If another method listed in § 98.474(a)(1) cannot be used, a quarterly flow rate value that is missing must be estimated using a representative flow rate value from the nearest previous time period.

(b) Whenever the monitoring procedures of this subpart cannot be followed to measure quarterly quantity of CO_2 received in containers, the most appropriate of the following missing data procedures must be followed:

(1) Another calculation methodology listed in § 98.474(a)(2) must be used if possible.

(2) If another method listed in § 98.474(a)(2) cannot be used, a quarterly mass or volume that is missing must be estimated using a representative mass or volume from the nearest previous time period.

(c) Whenever the monitoring procedures cannot be followed to measure CO_2 concentration, the following missing data procedures must be followed:

(1) Another calculation methodology listed in § 98.474(a)(3) must be used if possible.

(2) If another method listed in § 98.474(a)(3) cannot be used, a quarterly concentration value that is missing must be estimated using a representative concentration value from the nearest previous time period.

§ 98.476 Data reporting requirements.

If you are subject to this part and report under this subpart, you are not required to report the information in § 98.3(c)(4) for this subpart. In addition to the information required by § 98.3(c)(1) through § 98.3(c)(3) and by § 98.3(c)(5) through § 98.3(c)(9), you must report the information listed in this section.

(a) If you receive CO_2 by pipeline, report the following for each receiving flow meter:

(1) The total net mass of CO_2 received (metric tons) annually.

(2) If a volumetric flow meter is used to receive CO_2:

(i) The volumetric flow through a receiving flow meter at standard conditions (in standard cubic meters) in each quarter.

(ii) The volumetric flow through a receiving flow meter that is redelivered to another facility without being injected into your well (in standard cubic meters) in each quarter.

(iii) The CO_2 concentration in the flow (volume percent CO_2 expressed as a decimal fraction) in each quarter.

(3) If a mass flow meter is used to receive CO_2:

(i) The mass flow through a receiving flow meter (in metric tons) in each quarter.

(ii) The mass flow through a receiving flow meter that is redelivered to another facility without being injected into your well (in metric tons) in each quarter.

(iii) The CO_2 concentration in the flow (weight percent CO_2 expressed as a decimal fraction) in each quarter.

(4) The standard or method used to calculate each value in paragraphs (a)(2) through (a)(3) of this section.

(5) The number of times in the reporting year for which substitute data procedures were used to calculate values reported in paragraphs (a)(2) through (a)(3) of this section.

(6) Whether the flow meter is mass or volumetric.

(b) If you receive CO_2 in containers, report:

(1) The mass (in metric tons) or volume at standard conditions (in standard cubic meters) of contents in containers in each quarter.

(2) The concentration of CO_2 of contents in containers (volume or weight percent CO_2 expressed as a decimal fraction) in each quarter.

(3) The mass (in metric tons) or volume (in standard cubic meters) of contents in containers that is redelivered to another facility without being injected into your well in each quarter.

(4) The net total mass of CO_2 received (in metric tons) annually.

(5) The standard or method used to calculate each value in paragraphs (b)(1), (b)(2), and (b)(3) of this section.

(6) The number of times in the reporting year for which substitute data procedures were used to calculate values reported in paragraphs (b)(1) and (b)(2) of this section.

(c) If you use more than one receiving flow meter, report the net total mass of CO_2 received (metric tons) through all flow meters annually.

(d) The source of the CO_2 received according to the following categories:

(1) CO_2 production wells.

(2) Electric generating unit.

(3) Ethanol plant.

(4) Pulp and paper mill.

(5) Natural gas processing.

(6) Gasification operations.

(7) Other anthropogenic source.

(8) Discontinued enhanced oil and gas recovery project.

(9) Unknown.

(e) Report the following:

(1) Whether the facility received a Research and Development project exemption from reporting under 40 CFR part 98, subpart RR, for this reporting year. If you received an exemption, report the start and end dates of the exemption approved by EPA.

(2) Whether the facility includes a well or group of wells where a CO_2 stream was injected into subsurface geologic formations to enhance the recovery of oil during this reporting year.

(3) Whether the facility includes a well or group of wells where a CO_2 stream was injected into subsurface geologic formations to enhance the recovery of natural gas during this reporting year.

(4) Whether the facility includes a well or group of wells where a CO_2 stream was injected into subsurface geologic formations for acid gas disposal during this reporting year.

(5) Whether the facility includes a well or group of wells where a CO_2 stream was injected for a purpose other than those listed in paragraphs (e)(1) through (4) of this section. If you injected CO_2 for another purpose, report the purpose of the injection.

[75 FR 75078, Dec. 1, 2010, as amended at 78 FR 71981, Nov. 29, 2013]

§ 98.477 Records that must be retained.

(a) You must follow the record retention requirements specified by § 98.3(g). In addition to the records required by § 98.3(g), you must retain quarterly records of CO_2 received, including mass flow rate or contents of containers (mass or volumetric) at standard conditions and operating conditions, operating temperature and pressure, and concentration of these streams. You must retain all required records for at least 3 years.

(b) You must complete your monitoring plans, as described in § 98.3(g)(5), by April 1 of the year you begin collecting data.

§ 98.478 Definitions.

Except as provided below, all terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

CO_2 received means the CO_2 stream that you receive to be injected for the first time into a well on your facility that is covered by this subpart. CO_2 received includes, but is not limited to, a CO_2 stream from a production process unit inside your facility and a CO_2 stream that was injected into a well on another facility, removed from a discontinued enhanced oil or natural gas or other production well, and transferred to your facility.

PART 99 [RESERVED]

FINDING AIDS

A list of CFR titles, subtitles, chapters, subchapters and parts and an alphabetical list of agencies publishing in the CFR are included in the CFR Index and Finding Aids volume to the Code of Federal Regulations which is published separately and revised annually.

Table of CFR Titles and Chapters
Alphabetical List of Agencies Appearing in the CFR
List of CFR Sections Affected

Table of CFR Titles and Chapters

(Revised as of July 1, 2015)

Title 1—General Provisions

I Administrative Committee of the Federal Register (Parts 1—49)
II Office of the Federal Register (Parts 50—299)
III Administrative Conference of the United States (Parts 300—399)
IV Miscellaneous Agencies (Parts 400—500)

Title 2—Grants and Agreements

SUBTITLE A—OFFICE OF MANAGEMENT AND BUDGET GUIDANCE FOR GRANTS AND AGREEMENTS
I Office of Management and Budget Governmentwide Guidance for Grants and Agreements (Parts 2—199)
II Office of Management and Budget Guidance (Parts 200—299)
SUBTITLE B—FEDERAL AGENCY REGULATIONS FOR GRANTS AND AGREEMENTS
III Department of Health and Human Services (Parts 300—399)
IV Department of Agriculture (Parts 400—499)
VI Department of State (Parts 600—699)
VII Agency for International Development (Parts 700—799)
VIII Department of Veterans Affairs (Parts 800—899)
IX Department of Energy (Parts 900—999)
X Department of the Treasury (Parts 1000—1099)
XI Department of Defense (Parts 1100—1199)
XII Department of Transportation (Parts 1200—1299)
XIII Department of Commerce (Parts 1300—1399)
XIV Department of the Interior (Parts 1400—1499)
XV Environmental Protection Agency (Parts 1500—1599)
XVIII National Aeronautics and Space Administration (Parts 1800—1899)
XX United States Nuclear Regulatory Commission (Parts 2000—2099)
XXII Corporation for National and Community Service (Parts 2200—2299)
XXIII Social Security Administration (Parts 2300—2399)
XXIV Housing and Urban Development (Parts 2400—2499)
XXV National Science Foundation (Parts 2500—2599)
XXVI National Archives and Records Administration (Parts 2600—2699)
XXVII Small Business Administration (Parts 2700—2799)

Title 2—Grants and Agreements—Continued

Chap.	
XXVIII	Department of Justice (Parts 2800—2899)
XXIX	Department of Labor (Parts 2900—2999)
XXX	Department of Homeland Security (Parts 3000—3099)
XXXI	Institute of Museum and Library Services (Parts 3100—3199)
XXXII	National Endowment for the Arts (Parts 3200—3299)
XXXIII	National Endowment for the Humanities (Parts 3300—3399)
XXXIV	Department of Education (Parts 3400—3499)
XXXV	Export-Import Bank of the United States (Parts 3500—3599)
XXXVI	Office of National Drug Control Policy, Executive Office of the President (Parts 3600—3699)
XXXVII	Peace Corps (Parts 3700—3799)
LVIII	Election Assistance Commission (Parts 5800—5899)
LIX	Gulf Coast Ecosystem Restoration Council (Parts 5900—5999)

Title 3—The President

I	Executive Office of the President (Parts 100—199)

Title 4—Accounts

I	Government Accountability Office (Parts 1—199)

Title 5—Administrative Personnel

I	Office of Personnel Management (Parts 1—1199)
II	Merit Systems Protection Board (Parts 1200—1299)
III	Office of Management and Budget (Parts 1300—1399)
IV	Office of Personnel Management and Office of the Director of National Intelligence (Parts 1400—1499)
V	The International Organizations Employees Loyalty Board (Parts 1500—1599)
VI	Federal Retirement Thrift Investment Board (Parts 1600—1699)
VIII	Office of Special Counsel (Parts 1800—1899)
IX	Appalachian Regional Commission (Parts 1900—1999)
XI	Armed Forces Retirement Home (Parts 2100—2199)
XIV	Federal Labor Relations Authority, General Counsel of the Federal Labor Relations Authority and Federal Service Impasses Panel (Parts 2400—2499)
XVI	Office of Government Ethics (Parts 2600—2699)
XXI	Department of the Treasury (Parts 3100—3199)
XXII	Federal Deposit Insurance Corporation (Parts 3200—3299)
XXIII	Department of Energy (Parts 3300—3399)
XXIV	Federal Energy Regulatory Commission (Parts 3400—3499)
XXV	Department of the Interior (Parts 3500—3599)
XXVI	Department of Defense (Parts 3600—3699)
XXVIII	Department of Justice (Parts 3800—3899)

Title 5—Administrative Personnel—Continued

Chap.	
XXIX	Federal Communications Commission (Parts 3900—3999)
XXX	Farm Credit System Insurance Corporation (Parts 4000—4099)
XXXI	Farm Credit Administration (Parts 4100—4199)
XXXIII	Overseas Private Investment Corporation (Parts 4300—4399)
XXXIV	Securities and Exchange Commission (Parts 4400—4499)
XXXV	Office of Personnel Management (Parts 4500—4599)
XXXVII	Federal Election Commission (Parts 4700—4799)
XL	Interstate Commerce Commission (Parts 5000—5099)
XLI	Commodity Futures Trading Commission (Parts 5100—5199)
XLII	Department of Labor (Parts 5200—5299)
XLIII	National Science Foundation (Parts 5300—5399)
XLV	Department of Health and Human Services (Parts 5500—5599)
XLVI	Postal Rate Commission (Parts 5600—5699)
XLVII	Federal Trade Commission (Parts 5700—5799)
XLVIII	Nuclear Regulatory Commission (Parts 5800—5899)
XLIX	Federal Labor Relations Authority (Parts 5900—5999)
L	Department of Transportation (Parts 6000—6099)
LII	Export-Import Bank of the United States (Parts 6200—6299)
LIII	Department of Education (Parts 6300—6399)
LIV	Environmental Protection Agency (Parts 6400—6499)
LV	National Endowment for the Arts (Parts 6500—6599)
LVI	National Endowment for the Humanities (Parts 6600—6699)
LVII	General Services Administration (Parts 6700—6799)
LVIII	Board of Governors of the Federal Reserve System (Parts 6800—6899)
LIX	National Aeronautics and Space Administration (Parts 6900—6999)
LX	United States Postal Service (Parts 7000—7099)
LXI	National Labor Relations Board (Parts 7100—7199)
LXII	Equal Employment Opportunity Commission (Parts 7200—7299)
LXIII	Inter-American Foundation (Parts 7300—7399)
LXIV	Merit Systems Protection Board (Parts 7400—7499)
LXV	Department of Housing and Urban Development (Parts 7500—7599)
LXVI	National Archives and Records Administration (Parts 7600—7699)
LXVII	Institute of Museum and Library Services (Parts 7700—7799)
LXVIII	Commission on Civil Rights (Parts 7800—7899)
LXIX	Tennessee Valley Authority (Parts 7900—7999)
LXX	Court Services and Offender Supervision Agency for the District of Columbia (Parts 8000—8099)
LXXI	Consumer Product Safety Commission (Parts 8100—8199)
LXXIII	Department of Agriculture (Parts 8300—8399)
LXXIV	Federal Mine Safety and Health Review Commission (Parts 8400—8499)
LXXVI	Federal Retirement Thrift Investment Board (Parts 8600—8699)

Title 5—Administrative Personnel—Continued

Chap.

LXXVII Office of Management and Budget (Parts 8700—8799)

LXXX Federal Housing Finance Agency (Parts 9000—9099)

LXXXIII Special Inspector General for Afghanistan Reconstruction (Parts 9300—9399)

LXXXIV Bureau of Consumer Financial Protection (Parts 9400—9499)

LXXXVI National Credit Union Administration (Parts 9600—9699)

XCVII Department of Homeland Security Human Resources Management System (Department of Homeland Security—Office of Personnel Management) (Parts 9700—9799)

XCVII Council of the Inspectors General on Integrity and Efficiency (Parts 9800—9899)

XCIV Military Compensation and Retirement Modernization Commission (Parts 9900—9999)

Title 6—Domestic Security

I Department of Homeland Security, Office of the Secretary (Parts 1—199)

X Privacy and Civil Liberties Oversight Board (Parts 1000—1099)

Title 7—Agriculture

SUBTITLE A—OFFICE OF THE SECRETARY OF AGRICULTURE (PARTS 0—26)

SUBTITLE B—REGULATIONS OF THE DEPARTMENT OF AGRICULTURE

I Agricultural Marketing Service (Standards, Inspections, Marketing Practices), Department of Agriculture (Parts 27—209)

II Food and Nutrition Service, Department of Agriculture (Parts 210—299)

III Animal and Plant Health Inspection Service, Department of Agriculture (Parts 300—399)

IV Federal Crop Insurance Corporation, Department of Agriculture (Parts 400—499)

V Agricultural Research Service, Department of Agriculture (Parts 500—599)

VI Natural Resources Conservation Service, Department of Agriculture (Parts 600—699)

VII Farm Service Agency, Department of Agriculture (Parts 700—799)

VIII Grain Inspection, Packers and Stockyards Administration (Federal Grain Inspection Service), Department of Agriculture (Parts 800—899)

IX Agricultural Marketing Service (Marketing Agreements and Orders; Fruits, Vegetables, Nuts), Department of Agriculture (Parts 900—999)

X Agricultural Marketing Service (Marketing Agreements and Orders; Milk), Department of Agriculture (Parts 1000—1199)

XI Agricultural Marketing Service (Marketing Agreements and Orders; Miscellaneous Commodities), Department of Agriculture (Parts 1200—1299)

Title 7—Agriculture—Continued

Chap.	
XIV	Commodity Credit Corporation, Department of Agriculture (Parts 1400—1499)
XV	Foreign Agricultural Service, Department of Agriculture (Parts 1500—1599)
XVI	Rural Telephone Bank, Department of Agriculture (Parts 1600—1699)
XVII	Rural Utilities Service, Department of Agriculture (Parts 1700—1799)
XVIII	Rural Housing Service, Rural Business-Cooperative Service, Rural Utilities Service, and Farm Service Agency, Department of Agriculture (Parts 1800—2099)
XX	Local Television Loan Guarantee Board (Parts 2200—2299)
XXV	Office of Advocacy and Outreach, Department of Agriculture (Parts 2500—2599)
XXVI	Office of Inspector General, Department of Agriculture (Parts 2600—2699)
XXVII	Office of Information Resources Management, Department of Agriculture (Parts 2700—2799)
XXVIII	Office of Operations, Department of Agriculture (Parts 2800—2899)
XXIX	Office of Energy Policy and New Uses, Department of Agriculture (Parts 2900—2999)
XXX	Office of the Chief Financial Officer, Department of Agriculture (Parts 3000—3099)
XXXI	Office of Environmental Quality, Department of Agriculture (Parts 3100—3199)
XXXII	Office of Procurement and Property Management, Department of Agriculture (Parts 3200—3299)
XXXIII	Office of Transportation, Department of Agriculture (Parts 3300—3399)
XXXIV	National Institute of Food and Agriculture (Parts 3400—3499)
XXXV	Rural Housing Service, Department of Agriculture (Parts 3500—3599)
XXXVI	National Agricultural Statistics Service, Department of Agriculture (Parts 3600—3699)
XXXVII	Economic Research Service, Department of Agriculture (Parts 3700—3799)
XXXVIII	World Agricultural Outlook Board, Department of Agriculture (Parts 3800—3899)
XLI	[Reserved]
XLII	Rural Business-Cooperative Service and Rural Utilities Service, Department of Agriculture (Parts 4200—4299)

Title 8—Aliens and Nationality

I	Department of Homeland Security (Immigration and Naturalization) (Parts 1—499)
V	Executive Office for Immigration Review, Department of Justice (Parts 1000—1399)

Title 9—Animals and Animal Products

Chap.

I Animal and Plant Health Inspection Service, Department of Agriculture (Parts 1—199)

II Grain Inspection, Packers and Stockyards Administration (Packers and Stockyards Programs), Department of Agriculture (Parts 200—299)

III Food Safety and Inspection Service, Department of Agriculture (Parts 300—599)

Title 10—Energy

I Nuclear Regulatory Commission (Parts 0—199)

II Department of Energy (Parts 200—699)

III Department of Energy (Parts 700—999)

X Department of Energy (General Provisions) (Parts 1000—1099)

XIII Nuclear Waste Technical Review Board (Parts 1300—1399)

XVII Defense Nuclear Facilities Safety Board (Parts 1700—1799)

XVIII Northeast Interstate Low-Level Radioactive Waste Commission (Parts 1800—1899)

Title 11—Federal Elections

I Federal Election Commission (Parts 1—9099)

II Election Assistance Commission (Parts 9400—9499)

Title 12—Banks and Banking

I Comptroller of the Currency, Department of the Treasury (Parts 1—199)

II Federal Reserve System (Parts 200—299)

III Federal Deposit Insurance Corporation (Parts 300—399)

IV Export-Import Bank of the United States (Parts 400—499)

V Office of Thrift Supervision, Department of the Treasury (Parts 500—599)

VI Farm Credit Administration (Parts 600—699)

VII National Credit Union Administration (Parts 700—799)

VIII Federal Financing Bank (Parts 800—899)

IX Federal Housing Finance Board (Parts 900—999)

X Bureau of Consumer Financial Protection (Parts 1000—1099)

XI Federal Financial Institutions Examination Council (Parts 1100—1199)

XII Federal Housing Finance Agency (Parts 1200—1299)

XIII Financial Stability Oversight Council (Parts 1300—1399)

XIV Farm Credit System Insurance Corporation (Parts 1400—1499)

XV Department of the Treasury (Parts 1500—1599)

XVI Office of Financial Research (Parts 1600—1699)

XVII Office of Federal Housing Enterprise Oversight, Department of Housing and Urban Development (Parts 1700—1799)

Title 12—Banks and Banking—Continued

Chap.

XVIII Community Development Financial Institutions Fund, Department of the Treasury (Parts 1800—1899)

Title 13—Business Credit and Assistance

I Small Business Administration (Parts 1—199)

III Economic Development Administration, Department of Commerce (Parts 300—399)

IV Emergency Steel Guarantee Loan Board (Parts 400—499)

V Emergency Oil and Gas Guaranteed Loan Board (Parts 500—599)

Title 14—Aeronautics and Space

I Federal Aviation Administration, Department of Transportation (Parts 1—199)

II Office of the Secretary, Department of Transportation (Aviation Proceedings) (Parts 200—399)

III Commercial Space Transportation, Federal Aviation Administration, Department of Transportation (Parts 400—1199)

V National Aeronautics and Space Administration (Parts 1200—1299)

VI Air Transportation System Stabilization (Parts 1300—1399)

Title 15—Commerce and Foreign Trade

SUBTITLE A—OFFICE OF THE SECRETARY OF COMMERCE (PARTS 0—29)

SUBTITLE B—REGULATIONS RELATING TO COMMERCE AND FOREIGN TRADE

I Bureau of the Census, Department of Commerce (Parts 30—199)

II National Institute of Standards and Technology, Department of Commerce (Parts 200—299)

III International Trade Administration, Department of Commerce (Parts 300—399)

IV Foreign-Trade Zones Board, Department of Commerce (Parts 400—499)

VII Bureau of Industry and Security, Department of Commerce (Parts 700—799)

VIII Bureau of Economic Analysis, Department of Commerce (Parts 800—899)

IX National Oceanic and Atmospheric Administration, Department of Commerce (Parts 900—999)

XI Technology Administration, Department of Commerce (Parts 1100—1199)

XIII East-West Foreign Trade Board (Parts 1300—1399)

XIV Minority Business Development Agency (Parts 1400—1499)

SUBTITLE C—REGULATIONS RELATING TO FOREIGN TRADE AGREEMENTS

Title 15—Commerce and Foreign Trade—Continued

Chap.

XX Office of the United States Trade Representative (Parts 2000—2099)

SUBTITLE D—REGULATIONS RELATING TO TELECOMMUNICATIONS AND INFORMATION

XXIII National Telecommunications and Information Administration, Department of Commerce (Parts 2300—2399)

Title 16—Commercial Practices

I Federal Trade Commission (Parts 0—999)

II Consumer Product Safety Commission (Parts 1000—1799)

Title 17—Commodity and Securities Exchanges

I Commodity Futures Trading Commission (Parts 1—199)

II Securities and Exchange Commission (Parts 200—399)

IV Department of the Treasury (Parts 400—499)

Title 18—Conservation of Power and Water Resources

I Federal Energy Regulatory Commission, Department of Energy (Parts 1—399)

III Delaware River Basin Commission (Parts 400—499)

VI Water Resources Council (Parts 700—799)

VIII Susquehanna River Basin Commission (Parts 800—899)

XIII Tennessee Valley Authority (Parts 1300—1399)

Title 19—Customs Duties

I U.S. Customs and Border Protection, Department of Homeland Security; Department of the Treasury (Parts 0—199)

II United States International Trade Commission (Parts 200—299)

III International Trade Administration, Department of Commerce (Parts 300—399)

IV U.S. Immigration and Customs Enforcement, Department of Homeland Security (Parts 400—599)

Title 20—Employees' Benefits

I Office of Workers' Compensation Programs, Department of Labor (Parts 1—199)

II Railroad Retirement Board (Parts 200—399)

III Social Security Administration (Parts 400—499)

IV Employees' Compensation Appeals Board, Department of Labor (Parts 500—599)

V Employment and Training Administration, Department of Labor (Parts 600—699)

Title 20—Employees' Benefits—Continued

Chap.

VI Office of Workers' Compensation Programs, Department of Labor (Parts 700—799)

VII Benefits Review Board, Department of Labor (Parts 800—899)

VIII Joint Board for the Enrollment of Actuaries (Parts 900—999)

IX Office of the Assistant Secretary for Veterans' Employment and Training Service, Department of Labor (Parts 1000—1099)

Title 21—Food and Drugs

I Food and Drug Administration, Department of Health and Human Services (Parts 1—1299)

II Drug Enforcement Administration, Department of Justice (Parts 1300—1399)

III Office of National Drug Control Policy (Parts 1400—1499)

Title 22—Foreign Relations

I Department of State (Parts 1—199)

II Agency for International Development (Parts 200—299)

III Peace Corps (Parts 300—399)

IV International Joint Commission, United States and Canada (Parts 400—499)

V Broadcasting Board of Governors (Parts 500—599)

VII Overseas Private Investment Corporation (Parts 700—799)

IX Foreign Service Grievance Board (Parts 900—999)

X Inter-American Foundation (Parts 1000—1099)

XI International Boundary and Water Commission, United States and Mexico, United States Section (Parts 1100—1199)

XII United States International Development Cooperation Agency (Parts 1200—1299)

XIII Millennium Challenge Corporation (Parts 1300—1399)

XIV Foreign Service Labor Relations Board; Federal Labor Relations Authority; General Counsel of the Federal Labor Relations Authority; and the Foreign Service Impasse Disputes Panel (Parts 1400—1499)

XV African Development Foundation (Parts 1500—1599)

XVI Japan-United States Friendship Commission (Parts 1600—1699)

XVII United States Institute of Peace (Parts 1700—1799)

Title 23—Highways

I Federal Highway Administration, Department of Transportation (Parts 1—999)

II National Highway Traffic Safety Administration and Federal Highway Administration, Department of Transportation (Parts 1200—1299)

III National Highway Traffic Safety Administration, Department of Transportation (Parts 1300—1399)

Title 24—Housing and Urban Development

Chap.

SUBTITLE A—OFFICE OF THE SECRETARY, DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (PARTS 0—99)

SUBTITLE B—REGULATIONS RELATING TO HOUSING AND URBAN DEVELOPMENT

I Office of Assistant Secretary for Equal Opportunity, Department of Housing and Urban Development (Parts 100—199)

II Office of Assistant Secretary for Housing-Federal Housing Commissioner, Department of Housing and Urban Development (Parts 200—299)

III Government National Mortgage Association, Department of Housing and Urban Development (Parts 300—399)

IV Office of Housing and Office of Multifamily Housing Assistance Restructuring, Department of Housing and Urban Development (Parts 400—499)

V Office of Assistant Secretary for Community Planning and Development, Department of Housing and Urban Development (Parts 500—599)

VI Office of Assistant Secretary for Community Planning and Development, Department of Housing and Urban Development (Parts 600—699) [Reserved]

VII Office of the Secretary, Department of Housing and Urban Development (Housing Assistance Programs and Public and Indian Housing Programs) (Parts 700—799)

VIII Office of the Assistant Secretary for Housing—Federal Housing Commissioner, Department of Housing and Urban Development (Section 8 Housing Assistance Programs, Section 202 Direct Loan Program, Section 202 Supportive Housing for the Elderly Program and Section 811 Supportive Housing for Persons With Disabilities Program) (Parts 800—899)

IX Office of Assistant Secretary for Public and Indian Housing, Department of Housing and Urban Development (Parts 900—1699)

X Office of Assistant Secretary for Housing—Federal Housing Commissioner, Department of Housing and Urban Development (Interstate Land Sales Registration Program) (Parts 1700—1799)

XII Office of Inspector General, Department of Housing and Urban Development (Parts 2000—2099)

XV Emergency Mortgage Insurance and Loan Programs, Department of Housing and Urban Development (Parts 2700—2799) [Reserved]

XX Office of Assistant Secretary for Housing—Federal Housing Commissioner, Department of Housing and Urban Development (Parts 3200—3899)

XXIV Board of Directors of the HOPE for Homeowners Program (Parts 4000—4099) [Reserved]

XXV Neighborhood Reinvestment Corporation (Parts 4100—4199)

Title 25—Indians

I Bureau of Indian Affairs, Department of the Interior (Parts 1—299)

Title 25—Indians—Continued

Chap.

II Indian Arts and Crafts Board, Department of the Interior (Parts 300—399)

III National Indian Gaming Commission, Department of the Interior (Parts 500—599)

IV Office of Navajo and Hopi Indian Relocation (Parts 700—799)

V Bureau of Indian Affairs, Department of the Interior, and Indian Health Service, Department of Health and Human Services (Part 900)

VI Office of the Assistant Secretary-Indian Affairs, Department of the Interior (Parts 1000—1199)

VII Office of the Special Trustee for American Indians, Department of the Interior (Parts 1200—1299)

Title 26—Internal Revenue

I Internal Revenue Service, Department of the Treasury (Parts 1—End)

Title 27—Alcohol, Tobacco Products and Firearms

I Alcohol and Tobacco Tax and Trade Bureau, Department of the Treasury (Parts 1—399)

II Bureau of Alcohol, Tobacco, Firearms, and Explosives, Department of Justice (Parts 400—699)

Title 28—Judicial Administration

I Department of Justice (Parts 0—299)

III Federal Prison Industries, Inc., Department of Justice (Parts 300—399)

V Bureau of Prisons, Department of Justice (Parts 500—599)

VI Offices of Independent Counsel, Department of Justice (Parts 600—699)

VII Office of Independent Counsel (Parts 700—799)

VIII Court Services and Offender Supervision Agency for the District of Columbia (Parts 800—899)

IX National Crime Prevention and Privacy Compact Council (Parts 900—999)

XI Department of Justice and Department of State (Parts 1100—1199)

Title 29—Labor

SUBTITLE A—OFFICE OF THE SECRETARY OF LABOR (PARTS 0—99)

SUBTITLE B—REGULATIONS RELATING TO LABOR

I National Labor Relations Board (Parts 100—199)

II Office of Labor-Management Standards, Department of Labor (Parts 200—299)

III National Railroad Adjustment Board (Parts 300—399)

Title 29—Labor—Continued

Chap.

IV Office of Labor-Management Standards, Department of Labor (Parts 400—499)

V Wage and Hour Division, Department of Labor (Parts 500—899)

IX Construction Industry Collective Bargaining Commission (Parts 900—999)

X National Mediation Board (Parts 1200—1299)

XII Federal Mediation and Conciliation Service (Parts 1400—1499)

XIV Equal Employment Opportunity Commission (Parts 1600—1699)

XVII Occupational Safety and Health Administration, Department of Labor (Parts 1900—1999)

XX Occupational Safety and Health Review Commission (Parts 2200—2499)

XXV Employee Benefits Security Administration, Department of Labor (Parts 2500—2599)

XXVII Federal Mine Safety and Health Review Commission (Parts 2700—2799)

XL Pension Benefit Guaranty Corporation (Parts 4000—4999)

Title 30—Mineral Resources

I Mine Safety and Health Administration, Department of Labor (Parts 1—199)

II Bureau of Safety and Environmental Enforcement, Department of the Interior (Parts 200—299)

IV Geological Survey, Department of the Interior (Parts 400—499)

V Bureau of Ocean Energy Management, Department of the Interior (Parts 500—599)

VII Office of Surface Mining Reclamation and Enforcement, Department of the Interior (Parts 700—999)

XII Office of Natural Resources Revenue, Department of the Interior (Parts 1200—1299)

Title 31—Money and Finance: Treasury

SUBTITLE A—OFFICE OF THE SECRETARY OF THE TREASURY (PARTS 0—50)

SUBTITLE B—REGULATIONS RELATING TO MONEY AND FINANCE

I Monetary Offices, Department of the Treasury (Parts 51—199)

II Fiscal Service, Department of the Treasury (Parts 200—399)

IV Secret Service, Department of the Treasury (Parts 400—499)

V Office of Foreign Assets Control, Department of the Treasury (Parts 500—599)

VI Bureau of Engraving and Printing, Department of the Treasury (Parts 600—699)

VII Federal Law Enforcement Training Center, Department of the Treasury (Parts 700—799)

VIII Office of International Investment, Department of the Treasury (Parts 800—899)

Title 31—Money and Finance: Treasury—Continued

Chap.

IX Federal Claims Collection Standards (Department of the Treasury—Department of Justice) (Parts 900—999)

X Financial Crimes Enforcement Network, Department of the Treasury (Parts 1000—1099)

Title 32—National Defense

SUBTITLE A—DEPARTMENT OF DEFENSE

I Office of the Secretary of Defense (Parts 1—399)

V Department of the Army (Parts 400—699)

VI Department of the Navy (Parts 700—799)

VII Department of the Air Force (Parts 800—1099)

SUBTITLE B—OTHER REGULATIONS RELATING TO NATIONAL DEFENSE

XII Defense Logistics Agency (Parts 1200—1299)

XVI Selective Service System (Parts 1600—1699)

XVII Office of the Director of National Intelligence (Parts 1700—1799)

XVIII National Counterintelligence Center (Parts 1800—1899)

XIX Central Intelligence Agency (Parts 1900—1999)

XX Information Security Oversight Office, National Archives and Records Administration (Parts 2000—2099)

XXI National Security Council (Parts 2100—2199)

XXIV Office of Science and Technology Policy (Parts 2400—2499)

XXVII Office for Micronesian Status Negotiations (Parts 2700—2799)

XXVIII Office of the Vice President of the United States (Parts 2800—2899)

Title 33—Navigation and Navigable Waters

I Coast Guard, Department of Homeland Security (Parts 1—199)

II Corps of Engineers, Department of the Army (Parts 200—399)

IV Saint Lawrence Seaway Development Corporation, Department of Transportation (Parts 400—499)

Title 34—Education

SUBTITLE A—OFFICE OF THE SECRETARY, DEPARTMENT OF EDUCATION (PARTS 1—99)

SUBTITLE B—REGULATIONS OF THE OFFICES OF THE DEPARTMENT OF EDUCATION

I Office for Civil Rights, Department of Education (Parts 100—199)

II Office of Elementary and Secondary Education, Department of Education (Parts 200—299)

III Office of Special Education and Rehabilitative Services, Department of Education (Parts 300—399)

IV Office of Career, Technical and Adult Education, Department of Education (Parts 400—499)

Title 34—Education—Continued

Chap.

V Office of Bilingual Education and Minority Languages Affairs, Department of Education (Parts 500—599)[Reserved]

VI Office of Postsecondary Education, Department of Education (Parts 600—699)

VII Office of Educational Research and Improvement, Department of Education (Parts 700—799)[Reserved]

SUBTITLE C—REGULATIONS RELATING TO EDUCATION

XI [Reserved]

XII National Council on Disability (Parts 1200—1299)

Title 35 [Reserved]

Title 36—Parks, Forests, and Public Property

I National Park Service, Department of the Interior (Parts 1—199)

II Forest Service, Department of Agriculture (Parts 200—299)

III Corps of Engineers, Department of the Army (Parts 300—399)

IV American Battle Monuments Commission (Parts 400—499)

V Smithsonian Institution (Parts 500—599)

VI [Reserved]

VII Library of Congress (Parts 700—799)

VIII Advisory Council on Historic Preservation (Parts 800—899)

IX Pennsylvania Avenue Development Corporation (Parts 900—999)

X Presidio Trust (Parts 1000—1099)

XI Architectural and Transportation Barriers Compliance Board (Parts 1100—1199)

XII National Archives and Records Administration (Parts 1200—1299)

XV Oklahoma City National Memorial Trust (Parts 1500—1599)

XVI Morris K. Udall Scholarship and Excellence in National Environmental Policy Foundation (Parts 1600—1699)

Title 37—Patents, Trademarks, and Copyrights

I United States Patent and Trademark Office, Department of Commerce (Parts 1—199)

II U.S. Copyright Office, Library of Congress (Parts 200—299)

III Copyright Royalty Board, Library of Congress (Parts 300—399)

IV Assistant Secretary for Technology Policy, Department of Commerce (Parts 400—599)

Title 38—Pensions, Bonuses, and Veterans' Relief

I Department of Veterans Affairs (Parts 0—199)

II Armed Forces Retirement Home (Parts 200—299)

Title 39—Postal Service

Chap.

I United States Postal Service (Parts 1—999)

III Postal Regulatory Commission (Parts 3000—3099)

Title 40—Protection of Environment

I Environmental Protection Agency (Parts 1—1099)

IV Environmental Protection Agency and Department of Justice (Parts 1400—1499)

V Council on Environmental Quality (Parts 1500—1599)

VI Chemical Safety and Hazard Investigation Board (Parts 1600—1699)

VII Environmental Protection Agency and Department of Defense; Uniform National Discharge Standards for Vessels of the Armed Forces (Parts 1700—1799)

VIII Gulf Coast Ecosystem Restoration Council (Parts 1800—1899)

Title 41—Public Contracts and Property Management

SUBTITLE A—FEDERAL PROCUREMENT REGULATIONS SYSTEM [NOTE]

SUBTITLE B—OTHER PROVISIONS RELATING TO PUBLIC CONTRACTS

50 Public Contracts, Department of Labor (Parts 50–1—50–999)

51 Committee for Purchase From People Who Are Blind or Severely Disabled (Parts 51–1—51–99)

60 Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor (Parts 60–1—60–999)

61 Office of the Assistant Secretary for Veterans' Employment and Training Service, Department of Labor (Parts 61–1—61–999)

62—100 [Reserved]

SUBTITLE C—FEDERAL PROPERTY MANAGEMENT REGULATIONS SYSTEM

101 Federal Property Management Regulations (Parts 101–1—101–99)

102 Federal Management Regulation (Parts 102–1—102–299)

103—104 [Reserved]

105 General Services Administration (Parts 105–1—105–999)

109 Department of Energy Property Management Regulations (Parts 109–1—109–99)

114 Department of the Interior (Parts 114–1—114–99)

115 Environmental Protection Agency (Parts 115–1—115–99)

128 Department of Justice (Parts 128–1—128–99)

129—200 [Reserved]

SUBTITLE D—OTHER PROVISIONS RELATING TO PROPERTY MANAGEMENT [RESERVED]

SUBTITLE E—FEDERAL INFORMATION RESOURCES MANAGEMENT REGULATIONS SYSTEM [RESERVED]

SUBTITLE F—FEDERAL TRAVEL REGULATION SYSTEM

300 General (Parts 300–1—300–99)

301 Temporary Duty (TDY) Travel Allowances (Parts 301–1—301–99)

Title 41—Public Contracts and Property Management—Continued

Chap.

302 Relocation Allowances (Parts 302–1—302–99)

303 Payment of Expenses Connected with the Death of Certain Employees (Part 303–1—303–99)

304 Payment of Travel Expenses from a Non-Federal Source (Parts 304–1—304–99)

Title 42—Public Health

I Public Health Service, Department of Health and Human Services (Parts 1—199)

IV Centers for Medicare & Medicaid Services, Department of Health and Human Services (Parts 400—599)

V Office of Inspector General-Health Care, Department of Health and Human Services (Parts 1000—1999)

Title 43—Public Lands: Interior

SUBTITLE A—OFFICE OF THE SECRETARY OF THE INTERIOR (PARTS 1—199)

SUBTITLE B—REGULATIONS RELATING TO PUBLIC LANDS

I Bureau of Reclamation, Department of the Interior (Parts 400—999)

II Bureau of Land Management, Department of the Interior (Parts 1000—9999)

III Utah Reclamation Mitigation and Conservation Commission (Parts 10000—10099)

Title 44—Emergency Management and Assistance

I Federal Emergency Management Agency, Department of Homeland Security (Parts 0—399)

IV Department of Commerce and Department of Transportation (Parts 400—499)

Title 45—Public Welfare

SUBTITLE A—DEPARTMENT OF HEALTH AND HUMAN SERVICES (PARTS 1—199)

SUBTITLE B—REGULATIONS RELATING TO PUBLIC WELFARE

II Office of Family Assistance (Assistance Programs), Administration for Children and Families, Department of Health and Human Services (Parts 200—299)

III Office of Child Support Enforcement (Child Support Enforcement Program), Administration for Children and Families, Department of Health and Human Services (Parts 300—399)

IV Office of Refugee Resettlement, Administration for Children and Families, Department of Health and Human Services (Parts 400—499)

V Foreign Claims Settlement Commission of the United States, Department of Justice (Parts 500—599)

Title 45—Public Welfare—Continued

Chap.

VI National Science Foundation (Parts 600—699)

VII Commission on Civil Rights (Parts 700—799)

VIII Office of Personnel Management (Parts 800—899)

X Office of Community Services, Administration for Children and Families, Department of Health and Human Services (Parts 1000—1099)

XI National Foundation on the Arts and the Humanities (Parts 1100—1199)

XII Corporation for National and Community Service (Parts 1200—1299)

XIII Office of Human Development Services, Department of Health and Human Services (Parts 1300—1399)

XVI Legal Services Corporation (Parts 1600—1699)

XVII National Commission on Libraries and Information Science (Parts 1700—1799)

XVIII Harry S. Truman Scholarship Foundation (Parts 1800—1899)

XXI Commission on Fine Arts (Parts 2100—2199)

XXIII Arctic Research Commission (Part 2301)

XXIV James Madison Memorial Fellowship Foundation (Parts 2400—2499)

XXV Corporation for National and Community Service (Parts 2500—2599)

Title 46—Shipping

I Coast Guard, Department of Homeland Security (Parts 1—199)

II Maritime Administration, Department of Transportation (Parts 200—399)

III Coast Guard (Great Lakes Pilotage), Department of Homeland Security (Parts 400—499)

IV Federal Maritime Commission (Parts 500—599)

Title 47—Telecommunication

I Federal Communications Commission (Parts 0—199)

II Office of Science and Technology Policy and National Security Council (Parts 200—299)

III National Telecommunications and Information Administration, Department of Commerce (Parts 300—399)

IV National Telecommunications and Information Administration, Department of Commerce, and National Highway Traffic Safety Administration, Department of Transportation (Parts 400—499)

Title 48—Federal Acquisition Regulations System

1 Federal Acquisition Regulation (Parts 1—99)

2 Defense Acquisition Regulations System, Department of Defense (Parts 200—299)

Title 48—Federal Acquisition Regulations System—Continued

Chap.

3 Health and Human Services (Parts 300—399)

4 Department of Agriculture (Parts 400—499)

5 General Services Administration (Parts 500—599)

6 Department of State (Parts 600—699)

7 Agency for International Development (Parts 700—799)

8 Department of Veterans Affairs (Parts 800—899)

9 Department of Energy (Parts 900—999)

10 Department of the Treasury (Parts 1000—1099)

12 Department of Transportation (Parts 1200—1299)

13 Department of Commerce (Parts 1300—1399)

14 Department of the Interior (Parts 1400—1499)

15 Environmental Protection Agency (Parts 1500—1599)

16 Office of Personnel Management, Federal Employees Health Benefits Acquisition Regulation (Parts 1600—1699)

17 Office of Personnel Management (Parts 1700—1799)

18 National Aeronautics and Space Administration (Parts 1800—1899)

19 Broadcasting Board of Governors (Parts 1900—1999)

20 Nuclear Regulatory Commission (Parts 2000—2099)

21 Office of Personnel Management, Federal Employees Group Life Insurance Federal Acquisition Regulation (Parts 2100—2199)

23 Social Security Administration (Parts 2300—2399)

24 Department of Housing and Urban Development (Parts 2400—2499)

25 National Science Foundation (Parts 2500—2599)

28 Department of Justice (Parts 2800—2899)

29 Department of Labor (Parts 2900—2999)

30 Department of Homeland Security, Homeland Security Acquisition Regulation (HSAR) (Parts 3000—3099)

34 Department of Education Acquisition Regulation (Parts 3400—3499)

51 Department of the Army Acquisition Regulations (Parts 5100—5199)

52 Department of the Navy Acquisition Regulations (Parts 5200—5299)

53 Department of the Air Force Federal Acquisition Regulation Supplement (Parts 5300—5399) [Reserved]

54 Defense Logistics Agency, Department of Defense (Parts 5400—5499)

57 African Development Foundation (Parts 5700—5799)

61 Civilian Board of Contract Appeals, General Services Administration (Parts 6100—6199)

63 Department of Transportation Board of Contract Appeals (Parts 6300—6399)

99 Cost Accounting Standards Board, Office of Federal Procurement Policy, Office of Management and Budget (Parts 9900—9999)

Title 49—Transportation

Chap.

SUBTITLE A—OFFICE OF THE SECRETARY OF TRANSPORTATION (PARTS 1—99)

SUBTITLE B—OTHER REGULATIONS RELATING TO TRANSPORTATION

I Pipeline and Hazardous Materials Safety Administration, Department of Transportation (Parts 100—199)

II Federal Railroad Administration, Department of Transportation (Parts 200—299)

III Federal Motor Carrier Safety Administration, Department of Transportation (Parts 300—399)

IV Coast Guard, Department of Homeland Security (Parts 400—499)

V National Highway Traffic Safety Administration, Department of Transportation (Parts 500—599)

VI Federal Transit Administration, Department of Transportation (Parts 600—699)

VII National Railroad Passenger Corporation (AMTRAK) (Parts 700—799)

VIII National Transportation Safety Board (Parts 800—999)

X Surface Transportation Board, Department of Transportation (Parts 1000—1399)

XI Research and Innovative Technology Administration, Department of Transportation (Parts 1400—1499) [Reserved]

XII Transportation Security Administration, Department of Homeland Security (Parts 1500—1699)

Title 50—Wildlife and Fisheries

I United States Fish and Wildlife Service, Department of the Interior (Parts 1—199)

II National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce (Parts 200—299)

III International Fishing and Related Activities (Parts 300—399)

IV Joint Regulations (United States Fish and Wildlife Service, Department of the Interior and National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce); Endangered Species Committee Regulations (Parts 400—499)

V Marine Mammal Commission (Parts 500—599)

VI Fishery Conservation and Management, National Oceanic and Atmospheric Administration, Department of Commerce (Parts 600—699)

Alphabetical List of Agencies Appearing in the CFR

(Revised as of July 1, 2015)

Agency	CFR Title, Subtitle or Chapter
Administrative Committee of the Federal Register	1, I
Administrative Conference of the United States	1, III
Advisory Council on Historic Preservation	36, VIII
Advocacy and Outreach, Office of	7, XXV
Afghanistan Reconstruction, Special Inspector General for	5, LXXXIII
African Development Foundation	22, XV
Federal Acquisition Regulation	48, 57
Agency for International Development	2, VII; 22, II
Federal Acquisition Regulation	48, 7
Agricultural Marketing Service	7, I, IX, X, XI
Agricultural Research Service	7, V
Agriculture Department	2, IV; 5, LXXIII
Advocacy and Outreach, Office of	7, XXV
Agricultural Marketing Service	7, I, IX, X, XI
Agricultural Research Service	7, V
Animal and Plant Health Inspection Service	7, III; 9, I
Chief Financial Officer, Office of	7, XXX
Commodity Credit Corporation	7, XIV
Economic Research Service	7, XXXVII
Energy Policy and New Uses, Office of	2, IX; 7, XXIX
Environmental Quality, Office of	7, XXXI
Farm Service Agency	7, VII, XVIII
Federal Acquisition Regulation	48, 4
Federal Crop Insurance Corporation	7, IV
Food and Nutrition Service	7, II
Food Safety and Inspection Service	9, III
Foreign Agricultural Service	7, XV
Forest Service	36, II
Grain Inspection, Packers and Stockyards Administration	7, VIII; 9, II
Information Resources Management, Office of	7, XXVII
Inspector General, Office of	7, XXVI
National Agricultural Library	7, XLI
National Agricultural Statistics Service	7, XXXVI
National Institute of Food and Agriculture	7, XXXIV
Natural Resources Conservation Service	7, VI
Operations, Office of	7, XXVIII
Procurement and Property Management, Office of	7, XXXII
Rural Business-Cooperative Service	7, XVIII, XLII, L
Rural Development Administration	7, XLII
Rural Housing Service	7, XVIII, XXXV, L
Rural Telephone Bank	7, XVI
Rural Utilities Service	7, XVII, XVIII, XLII, L
Secretary of Agriculture, Office of	7, Subtitle A
Transportation, Office of	7, XXXIII
World Agricultural Outlook Board	7, XXXVIII
Air Force Department	32, VII
Federal Acquisition Regulation Supplement	48, 53
Air Transportation Stabilization Board	14, VI
Alcohol and Tobacco Tax and Trade Bureau	27, I
Alcohol, Tobacco, Firearms, and Explosives, Bureau of	27, II
AMTRAK	49, VII
American Battle Monuments Commission	36, IV
American Indians, Office of the Special Trustee	25, VII

Agency	CFR Title, Subtitle or Chapter
Animal and Plant Health Inspection Service	7, III; 9, I
Appalachian Regional Commission	5, IX
Architectural and Transportation Barriers Compliance Board	36, XI
Arctic Research Commission	45, XXIII
Armed Forces Retirement Home	5, XI
Army Department	32, V
Engineers, Corps of	33, II; 36, III
Federal Acquisition Regulation	48, 51
Bilingual Education and Minority Languages Affairs, Office of	34, V
Blind or Severely Disabled, Committee for Purchase from People Who Are	41, 51
Broadcasting Board of Governors	22, V
Federal Acquisition Regulation	48, 19
Career, Technical and Adult Education, Office of	34, IV
Census Bureau	15, I
Centers for Medicare & Medicaid Services	42, IV
Central Intelligence Agency	32, XIX
Chemical Safety and Hazardous Investigation Board	40, VI
Chief Financial Officer, Office of	7, XXX
Child Support Enforcement, Office of	45, III
Children and Families, Administration for	45, II, III, IV, X
Civil Rights, Commission on	5, LXVIII; 45, VII
Civil Rights, Office for	34, I
Council of the Inspectors General on Integrity and Efficiency	5, XCVIII
Court Services and Offender Supervision Agency for the District of Columbia	5, LXX
Coast Guard	33, I; 46, I; 49, IV
Coast Guard (Great Lakes Pilotage)	46, III
Commerce Department	2, XIII; 44, IV; 50, VI
Census Bureau	15, I
Economic Analysis, Bureau of	15, VIII
Economic Development Administration	13, III
Emergency Management and Assistance	44, IV
Federal Acquisition Regulation	48, 13
Foreign-Trade Zones Board	15, IV
Industry and Security, Bureau of	15, VII
International Trade Administration	15, III; 19, III
National Institute of Standards and Technology	15, II
National Marine Fisheries Service	50, II, IV
National Oceanic and Atmospheric Administration	15, IX; 50, II, III, IV, VI
National Telecommunications and Information Administration	15, XXIII; 47, III, IV
National Weather Service	15, IX
Patent and Trademark Office, United States	37, I
Productivity, Technology and Innovation, Assistant Secretary for	37, IV
Secretary of Commerce, Office of	15, Subtitle A
Technology Administration	15, XI
Technology Policy, Assistant Secretary for	37, IV
Commercial Space Transportation	14, III
Commodity Credit Corporation	7, XIV
Commodity Futures Trading Commission	5, XLI; 17, I
Community Planning and Development, Office of Assistant Secretary for	24, V, VI
Community Services, Office of	45, X
Comptroller of the Currency	12, I
Construction Industry Collective Bargaining Commission	29, IX
Consumer Financial Protection Bureau	5, LXXXIV; 12, X
Consumer Product Safety Commission	5, LXXI; 16, II
Copyright Royalty Board	37, III
Corporation for National and Community Service	2, XXII; 45, XII, XXV
Cost Accounting Standards Board	48, 99
Council on Environmental Quality	40, V
Court Services and Offender Supervision Agency for the District of Columbia	5, LXX; 28, VIII
Customs and Border Protection	19, I
Defense Contract Audit Agency	32, I

Agency	CFR Title, Subtitle or Chapter
Defense Department	2, XI; 5, XXVI; 32, Subtitle A; 40, VII
Advanced Research Projects Agency	32, I
Air Force Department	32, VII
Army Department	32, V; 33, II; 36, III; 48, 51
Defense Acquisition Regulations System	48, 2
Defense Intelligence Agency	32, I
Defense Logistics Agency	32, I, XII; 48, 54
Engineers, Corps of	33, II; 36, III
National Imagery and Mapping Agency	32, I
Navy Department	32, VI; 48, 52
Secretary of Defense, Office of	2, XI; 32, I
Defense Contract Audit Agency	32, I
Defense Intelligence Agency	32, I
Defense Logistics Agency	32, XII; 48, 54
Defense Nuclear Facilities Safety Board	10, XVII
Delaware River Basin Commission	18, III
District of Columbia, Court Services and Offender Supervision Agency for the	5, LXX; 28, VIII
Drug Enforcement Administration	21, II
East-West Foreign Trade Board	15, XIII
Economic Analysis, Bureau of	15, VIII
Economic Development Administration	13, III
Economic Research Service	7, XXXVII
Education, Department of	2, XXXIV; 5, LIII
Bilingual Education and Minority Languages Affairs, Office of	34, V
Career, Technical and Adult Education, Office of	34, IV
Civil Rights, Office for	34, I
Educational Research and Improvement, Office of	34, VII
Elementary and Secondary Education, Office of	34, II
Federal Acquisition Regulation	48, 34
Postsecondary Education, Office of	34, VI
Secretary of Education, Office of	34, Subtitle A
Special Education and Rehabilitative Services, Office of	34, III
Career, Technical, and Adult Education, Office of	34, IV
Educational Research and Improvement, Office of	34, VII
Election Assistance Commission	2, LVIII; 11, II
Elementary and Secondary Education, Office of	34, II
Emergency Oil and Gas Guaranteed Loan Board	13, V
Emergency Steel Guarantee Loan Board	13, IV
Employee Benefits Security Administration	29, XXV
Employees' Compensation Appeals Board	20, IV
Employees Loyalty Board	5, V
Employment and Training Administration	20, V
Employment Standards Administration	20, VI
Endangered Species Committee	50, IV
Energy, Department of	2, IX; 5, XXIII; 10, II, III, X
Federal Acquisition Regulation	48, 9
Federal Energy Regulatory Commission	5, XXIV; 18, I
Property Management Regulations	41, 109
Energy, Office of	7, XXIX
Engineers, Corps of	33, II; 36, III
Engraving and Printing, Bureau of	31, VI
Environmental Protection Agency	2, XV; 5, LIV; 40, I, IV, VII
Federal Acquisition Regulation	48, 15
Property Management Regulations	41, 115
Environmental Quality, Office of	7, XXXI
Equal Employment Opportunity Commission	5, LXII; 29, XIV
Equal Opportunity, Office of Assistant Secretary for	24, I
Executive Office of the President	3, I
Environmental Quality, Council on	40, V
Management and Budget, Office of	2, Subtitle A; 5, III, LXXVII; 14, VI; 48, 99

Agency	CFR Title, Subtitle or Chapter
National Drug Control Policy, Office of	2, XXXVI; 21, III
National Security Council	32, XXI; 47, 2
Presidential Documents	3
Science and Technology Policy, Office of	32, XXIV; 47, II
Trade Representative, Office of the United States	15, XX
Export-Import Bank of the United States	2, XXXV; 5, LII; 12, IV
Family Assistance, Office of	45, II
Farm Credit Administration	5, XXXI; 12, VI
Farm Credit System Insurance Corporation	5, XXX; 12, XIV
Farm Service Agency	7, VII, XVIII
Federal Acquisition Regulation	48, 1
Federal Aviation Administration	14, I
Commercial Space Transportation	14, III
Federal Claims Collection Standards	31, IX
Federal Communications Commission	5, XXIX; 47, I
Federal Contract Compliance Programs, Office of	41, 60
Federal Crop Insurance Corporation	7, IV
Federal Deposit Insurance Corporation	5, XXII; 12, III
Federal Election Commission	5, XXXVII; 11, I
Federal Emergency Management Agency	44, I
Federal Employees Group Life Insurance Federal Acquisition Regulation	48, 21
Federal Employees Health Benefits Acquisition Regulation	48, 16
Federal Energy Regulatory Commission	5, XXIV; 18, I
Federal Financial Institutions Examination Council	12, XI
Federal Financing Bank	12, VIII
Federal Highway Administration	23, I, II
Federal Home Loan Mortgage Corporation	1, IV
Federal Housing Enterprise Oversight Office	12, XVII
Federal Housing Finance Agency	5, LXXX; 12, XII
Federal Housing Finance Board	12, IX
Federal Labor Relations Authority	5, XIV, XLIX; 22, XIV
Federal Law Enforcement Training Center	31, VII
Federal Management Regulation	41, 102
Federal Maritime Commission	46, IV
Federal Mediation and Conciliation Service	29, XII
Federal Mine Safety and Health Review Commission	5, LXXIV; 29, XXVII
Federal Motor Carrier Safety Administration	49, III
Federal Prison Industries, Inc.	28, III
Federal Procurement Policy Office	48, 99
Federal Property Management Regulations	41, 101
Federal Railroad Administration	49, II
Federal Register, Administrative Committee of	1, I
Federal Register, Office of	1, II
Federal Reserve System	12, II
Board of Governors	5, LVIII
Federal Retirement Thrift Investment Board	5, VI, LXXVI
Federal Service Impasses Panel	5, XIV
Federal Trade Commission	5, XLVII; 16, I
Federal Transit Administration	49, VI
Federal Travel Regulation System	41, Subtitle F
Financial Crimes Enforcement Network	31, X
Financial Research Office	12, XVI
Financial Stability Oversight Council	12, XIII
Fine Arts, Commission on	45, XXI
Fiscal Service	31, II
Fish and Wildlife Service, United States	50, I, IV
Food and Drug Administration	21, I
Food and Nutrition Service	7, II
Food Safety and Inspection Service	9, III
Foreign Agricultural Service	7, XV
Foreign Assets Control, Office of	31, V
Foreign Claims Settlement Commission of the United States	45, V
Foreign Service Grievance Board	22, IX
Foreign Service Impasse Disputes Panel	22, XIV
Foreign Service Labor Relations Board	22, XIV
Foreign-Trade Zones Board	15, IV

Agency	CFR Title, Subtitle or Chapter
Forest Service	36, II
General Services Administration	5, LVII; 41, 105
Contract Appeals, Board of	48, 61
Federal Acquisition Regulation	48, 5
Federal Management Regulation	41, 102
Federal Property Management Regulations	41, 101
Federal Travel Regulation System	41, Subtitle F
General	41, 300
Payment From a Non-Federal Source for Travel Expenses	41, 304
Payment of Expenses Connected With the Death of Certain Employees	41, 303
Relocation Allowances	41, 302
Temporary Duty (TDY) Travel Allowances	41, 301
Geological Survey	30, IV
Government Accountability Office	4, I
Government Ethics, Office of	5, XVI
Government National Mortgage Association	24, III
Grain Inspection, Packers and Stockyards Administration	7, VIII; 9, II
Gulf Coast Ecosystem Restoration Council	2, LIX; 40, VIII
Harry S. Truman Scholarship Foundation	45, XVIII
Health and Human Services, Department of	2, III; 5, XLV; 45, Subtitle A,
Centers for Medicare & Medicaid Services	42, IV
Child Support Enforcement, Office of	45, III
Children and Families, Administration for	45, II, III, IV, X
Community Services, Office of	45, X
Family Assistance, Office of	45, II
Federal Acquisition Regulation	48, 3
Food and Drug Administration	21, I
Human Development Services, Office of	45, XIII
Indian Health Service	25, V
Inspector General (Health Care), Office of	42, V
Public Health Service	42, I
Refugee Resettlement, Office of	45, IV
Homeland Security, Department of	2, XXX; 6, I; 8, I
Coast Guard	33, I; 46, I; 49, IV
Coast Guard (Great Lakes Pilotage)	46, III
Customs and Border Protection	19, I
Federal Emergency Management Agency	44, I
Human Resources Management and Labor Relations Systems	5, XCVII
Immigration and Customs Enforcement Bureau	19, IV
Transportation Security Administration	49, XII
HOPE for Homeowners Program, Board of Directors of	24, XXIV
Housing and Urban Development, Department of	2, XXIV; 5, LXV; 24, Subtitle B
Community Planning and Development, Office of Assistant Secretary for	24, V, VI
Equal Opportunity, Office of Assistant Secretary for	24, I
Federal Acquisition Regulation	48, 24
Federal Housing Enterprise Oversight, Office of	12, XVII
Government National Mortgage Association	24, III
Housing—Federal Housing Commissioner, Office of Assistant Secretary for	24, II, VIII, X, XX
Housing, Office of, and Multifamily Housing Assistance Restructuring, Office of	24, IV
Inspector General, Office of	24, XII
Public and Indian Housing, Office of Assistant Secretary for	24, IX
Secretary, Office of	24, Subtitle A, VII
Housing—Federal Housing Commissioner, Office of Assistant Secretary for	24, II, VIII, X, XX
Housing, Office of, and Multifamily Housing Assistance Restructuring, Office of	24, IV
Human Development Services, Office of	45, XIII
Immigration and Customs Enforcement Bureau	19, IV
Immigration Review, Executive Office for	8, V
Independent Counsel, Office of	28, VII

Agency	CFR Title, Subtitle or Chapter
Indian Affairs, Bureau of	25, I, V
Indian Affairs, Office of the Assistant Secretary	25, VI
Indian Arts and Crafts Board	25, II
Indian Health Service	25, V
Industry and Security, Bureau of	15, VII
Information Resources Management, Office of	7, XXVII
Information Security Oversight Office, National Archives and Records Administration	32, XX
Inspector General	
Agriculture Department	7, XXVI
Health and Human Services Department	42, V
Housing and Urban Development Department	24, XII, XV
Institute of Peace, United States	22, XVII
Inter-American Foundation	5, LXIII; 22, X
Interior Department	2, XIV
American Indians, Office of the Special Trustee	25, VII
Endangered Species Committee	50, IV
Federal Acquisition Regulation	48, 14
Federal Property Management Regulations System	41, 114
Fish and Wildlife Service, United States	50, I, IV
Geological Survey	30, IV
Indian Affairs, Bureau of	25, I, V
Indian Affairs, Office of the Assistant Secretary	25, VI
Indian Arts and Crafts Board	25, II
Land Management, Bureau of	43, II
National Indian Gaming Commission	25, III
National Park Service	36, I
Natural Resource Revenue, Office of	30, XII
Ocean Energy Management, Bureau of	30, V
Reclamation, Bureau of	43, I
Safety and Enforcement Bureau, Bureau of	30, II
Secretary of the Interior, Office of	2, XIV; 43, Subtitle A
Surface Mining Reclamation and Enforcement, Office of	30, VII
Internal Revenue Service	26, I
International Boundary and Water Commission, United States and Mexico, United States Section	22, XI
International Development, United States Agency for	22, II
Federal Acquisition Regulation	48, 7
International Development Cooperation Agency, United States	22, XII
International Joint Commission, United States and Canada	22, IV
International Organizations Employees Loyalty Board	5, V
International Trade Administration	15, III; 19, III
International Trade Commission, United States	19, II
Interstate Commerce Commission	5, XL
Investment Security, Office of	31, VIII
James Madison Memorial Fellowship Foundation	45, XXIV
Japan–United States Friendship Commission	22, XVI
Joint Board for the Enrollment of Actuaries	20, VIII
Justice Department	2, XXVIII; 5, XXVIII; 28, I, XI; 40, IV
Alcohol, Tobacco, Firearms, and Explosives, Bureau of	27, II
Drug Enforcement Administration	21, II
Federal Acquisition Regulation	48, 28
Federal Claims Collection Standards	31, IX
Federal Prison Industries, Inc.	28, III
Foreign Claims Settlement Commission of the United States	45, V
Immigration Review, Executive Office for	8, V
Offices of Independent Counsel	28, VI
Prisons, Bureau of	28, V
Property Management Regulations	41, 128
Labor Department	2, XXIX; 5, XLII
Employee Benefits Security Administration	29, XXV
Employees' Compensation Appeals Board	20, IV
Employment and Training Administration	20, V
Employment Standards Administration	20, VI

Agency	CFR Title, Subtitle or Chapter
Federal Acquisition Regulation	48, 29
Federal Contract Compliance Programs, Office of	41, 60
Federal Procurement Regulations System	41, 50
Labor-Management Standards, Office of	29, II, IV
Mine Safety and Health Administration	30, I
Occupational Safety and Health Administration	29, XVII
Office of Workers' Compensation Programs	20, VII
Public Contracts	41, 50
Secretary of Labor, Office of	29, Subtitle A
Veterans' Employment and Training Service, Office of the Assistant Secretary for	41, 61; 20, IX
Wage and Hour Division	29, V
Workers' Compensation Programs, Office of	20, I
Labor-Management Standards, Office of	29, II, IV
Land Management, Bureau of	43, II
Legal Services Corporation	45, XVI
Library of Congress	36, VII
Copyright Royalty Board	37, III
U.S. Copyright Office	37, II
Local Television Loan Guarantee Board	7, XX
Management and Budget, Office of	5, III, LXXVII; 14, VI; 48, 99
Marine Mammal Commission	50, V
Maritime Administration	46, II
Merit Systems Protection Board	5, II, LXIV
Micronesian Status Negotiations, Office for	32, XXVII
Military Compensation and Retirement Modernization Commission	5, XCIV
Millennium Challenge Corporation	22, XIII
Mine Safety and Health Administration	30, I
Minority Business Development Agency	15, XIV
Miscellaneous Agencies	1, IV
Monetary Offices	31, I
Morris K. Udall Scholarship and Excellence in National Environmental Policy Foundation	36, XVI
Museum and Library Services, Institute of	2, XXXI
National Aeronautics and Space Administration	
Federal Acquisition Regulation	48, 18
National Agricultural Library	7, XLI
National Agricultural Statistics Service	7, XXXVI
National and Community Service, Corporation for	2, XXII; 45, XII, XXV
National Archives and Records Administration	2, XXVI; 5, LXVI; 36, XII
Information Security Oversight Office	32, XX
National Capital Planning Commission	1, IV
National Commission for Employment Policy	1, IV
National Commission on Libraries and Information Science	45, XVII
National Council on Disability	34, XII
National Counterintelligence Center	32, XVIII
National Credit Union Administration	5, LXXXVI; 12, VII
National Crime Prevention and Privacy Compact Council	28, IX
National Drug Control Policy, Office of	2, XXXVI; 21, III
National Endowment for the Arts	2, XXXII
National Endowment for the Humanities	2, XXXIII
National Foundation on the Arts and the Humanities	45, XI
National Geospatial-Intelligence Agency	32, I
National Highway Traffic Safety Administration	23, II, III; 47, VI; 49, V
National Imagery and Mapping Agency	32, I
National Indian Gaming Commission	25, III
National Institute of Food and Agriculture	7, XXXIV
National Institute of Standards and Technology	15, II
National Intelligence, Office of Director of	5, IV; 32, XVII
National Labor Relations Board	5, LXI; 29, I
National Marine Fisheries Service	50, II, IV
National Mediation Board	29, X
National Oceanic and Atmospheric Administration	15, IX; 50, II, III, IV, VI
National Park Service	36, I

Agency	CFR Title, Subtitle or Chapter
National Railroad Adjustment Board	29, III
National Railroad Passenger Corporation (AMTRAK)	49, VII
National Science Foundation	2, XXV; 5, XLIII; 45, VI
Federal Acquisition Regulation	48, 25
National Security Council	32, XXI
National Security Council and Office of Science and Technology Policy	47, II
National Telecommunications and Information Administration	15, XXIII; 47, III, IV
National Transportation Safety Board	49, VIII
Natural Resources Conservation Service	7, VI
Natural Resource Revenue, Office of	30, XII
Navajo and Hopi Indian Relocation, Office of	25, IV
Navy Department	32, VI
Federal Acquisition Regulation	48, 52
Neighborhood Reinvestment Corporation	24, XXV
Northeast Interstate Low-Level Radioactive Waste Commission	10, XVIII
Nuclear Regulatory Commission	2, XX; 5, XLVIII; 10, I
Federal Acquisition Regulation	48, 20
Occupational Safety and Health Administration	29, XVII
Occupational Safety and Health Review Commission	29, XX
Ocean Energy Management, Bureau of	30, V
Offices of Independent Counsel	28, VI
Office of Workers' Compensation Programs	20, VII
Oklahoma City National Memorial Trust	36, XV
Operations Office	7, XXVIII
Overseas Private Investment Corporation	5, XXXIII; 22, VII
Patent and Trademark Office, United States	37, I
Payment From a Non-Federal Source for Travel Expenses	41, 304
Payment of Expenses Connected With the Death of Certain Employees	41, 303
Peace Corps	2, XXXVII; 22, III
Pennsylvania Avenue Development Corporation	36, IX
Pension Benefit Guaranty Corporation	29, XL
Personnel Management, Office of	5, I, XXXV; 5, IV; 45, VIII
Human Resources Management and Labor Relations Systems, Department of Homeland Security	5, XCVII
Federal Acquisition Regulation	48, 17
Federal Employees Group Life Insurance Federal Acquisition Regulation	48, 21
Federal Employees Health Benefits Acquisition Regulation	48, 16
Pipeline and Hazardous Materials Safety Administration	49, I
Postal Regulatory Commission	5, XLVI; 39, III
Postal Service, United States	5, LX; 39, I
Postsecondary Education, Office of	34, VI
President's Commission on White House Fellowships	1, IV
Presidential Documents	3
Presidio Trust	36, X
Prisons, Bureau of	28, V
Privacy and Civil Liberties Oversight Board	6, X
Procurement and Property Management, Office of	7, XXXII
Productivity, Technology and Innovation, Assistant Secretary	37, IV
Public Contracts, Department of Labor	41, 50
Public and Indian Housing, Office of Assistant Secretary for	24, IX
Public Health Service	42, I
Railroad Retirement Board	20, II
Reclamation, Bureau of	43, I
Refugee Resettlement, Office of	45, IV
Relocation Allowances	41, 302
Research and Innovative Technology Administration	49, XI
Rural Business-Cooperative Service	7, XVIII, XLII, L
Rural Development Administration	7, XLII
Rural Housing Service	7, XVIII, XXXV, L
Rural Telephone Bank	7, XVI

Agency	CFR Title, Subtitle or Chapter
Rural Utilities Service	7, XVII, XVIII, XLII, L
Safety and Environmental Enforcement, Bureau of	30, II
Saint Lawrence Seaway Development Corporation	33, IV
Science and Technology Policy, Office of	32, XXIV
Science and Technology Policy, Office of, and National Security Council	47, II
Secret Service	31, IV
Securities and Exchange Commission	5, XXXIV; 17, II
Selective Service System	32, XVI
Small Business Administration	2, XXVII; 13, I
Smithsonian Institution	36, V
Social Security Administration	2, XXIII; 20, III; 48, 23
Soldiers' and Airmen's Home, United States	5, XI
Special Counsel, Office of	5, VIII
Special Education and Rehabilitative Services, Office of	34, III
State Department	2, VI; 22, I; 28, XI
Federal Acquisition Regulation	48, 6
Surface Mining Reclamation and Enforcement, Office of	30, VII
Surface Transportation Board	49, X
Susquehanna River Basin Commission	18, VIII
Technology Administration	15, XI
Technology Policy, Assistant Secretary for	37, IV
Tennessee Valley Authority	5, LXIX; 18, XIII
Thrift Supervision Office, Department of the Treasury	12, V
Trade Representative, United States, Office of	15, XX
Transportation, Department of	2, XII; 5, L
Commercial Space Transportation	14, III
Contract Appeals, Board of	48, 63
Emergency Management and Assistance	44, IV
Federal Acquisition Regulation	48, 12
Federal Aviation Administration	14, I
Federal Highway Administration	23, I, II
Federal Motor Carrier Safety Administration	49, III
Federal Railroad Administration	49, II
Federal Transit Administration	49, VI
Maritime Administration	46, II
National Highway Traffic Safety Administration	23, II, III; 47, IV; 49, V
Pipeline and Hazardous Materials Safety Administration	49, I
Saint Lawrence Seaway Development Corporation	33, IV
Secretary of Transportation, Office of	14, II; 49, Subtitle A
Surface Transportation Board	49, X
Transportation Statistics Bureau	49, XI
Transportation, Office of	7, XXXIII
Transportation Security Administration	49, XII
Transportation Statistics Bureau	49, XI
Travel Allowances, Temporary Duty (TDY)	41, 301
Treasury Department	2, X;5, XXI; 12, XV; 17, IV; 31, IX
Alcohol and Tobacco Tax and Trade Bureau	27, I
Community Development Financial Institutions Fund	12, XVIII
Comptroller of the Currency	12, I
Customs and Border Protection	19, I
Engraving and Printing, Bureau of	31, VI
Federal Acquisition Regulation	48, 10
Federal Claims Collection Standards	31, IX
Federal Law Enforcement Training Center	31, VII
Financial Crimes Enforcement Network	31, X
Fiscal Service	31, II
Foreign Assets Control, Office of	31, V
Internal Revenue Service	26, I
Investment Security, Office of	31, VIII
Monetary Offices	31, I
Secret Service	31, IV
Secretary of the Treasury, Office of	31, Subtitle A
Thrift Supervision, Office of	12, V
Truman, Harry S. Scholarship Foundation	45, XVIII
United States and Canada, International Joint Commission	22, IV

Agency	CFR Title, Subtitle or Chapter
United States and Mexico, International Boundary and Water Commission, United States Section	22, XI
U.S. Copyright Office	37, II
Utah Reclamation Mitigation and Conservation Commission	43, III
Veterans Affairs Department	2, VIII; 38, I
Federal Acquisition Regulation	48, 8
Veterans' Employment and Training Service, Office of the Assistant Secretary for	41, 61; 20, IX
Vice President of the United States, Office of	32, XXVIII
Wage and Hour Division	29, V
Water Resources Council	18, VI
Workers' Compensation Programs, Office of	20, I
World Agricultural Outlook Board	7, XXXVIII

List of CFR Sections Affected

All changes in this volume of the Code of Federal Regulations (CFR) that were made by documents published in the FEDERAL REGISTER since January 1, 2010 are enumerated in the following list. Entries indicate the nature of the changes effected. Page numbers refer to FEDERAL REGISTER pages. The user should consult the entries for chapters, parts and subparts as well as sections for revisions.

For changes to this volume of the CFR prior to this listing, consult the annual edition of the monthly List of CFR Sections Affected (LSA). The LSA is available at *www.fdsys.gov*. For changes to this volume of the CFR prior to 2001, see the ''List of CFR Sections Affected, 1949–1963, 1964–1972, 1973–1985, and 1986–2000'' published in 11 separate volumes. The ''List of CFR Sections Affected 1986–2000'' is available at *www.fdsys.gov*.

2010

40 CFR

75 FR Page

Chapter I

98.1 (b) revised 12456
Regulation at 75 FR 12456 withdrawn 22699
(b) revised 39758
98.2 (a)(1), (2) and (4) revised 12456
Regulation at 75 FR 12456 withdrawn 22699
(a)(1), (2) and (4) revised; (i)(3) amended 39758
(a)(2) revised 57685
(a) introductory text revised 74487
98.3 (b) introductory text, (2), (c)(4)(i), (ii), (iii) introductory text and (i)(1) revised; (b)(1) removed 12456
Regulation at 75 FR 12456 withdrawn 22699
(b) introductory text, (2), (c)(4)(i), (ii), (iii) introductory text, (7) and (i)(1) revised; (b)(1) removed 39758
(c)(4)(v), (10) and (11) added 57685
(c)(4)(vi) added; (c)(5)(i) and (ii) revised 74816
(c)(1), (4) introductory text, (i), (ii), (iii) introductory text, (g)(4), (5)(iii), (h) and (i) revised; (c)(4)(vi), (12) and (j) added; (c)(5)(i), (d)(3) introductory text and (f) amended 79134
(c)(4)(iv) revised; (c)(4)(vii) added; interim 81344

40 CFR—Continued

75 FR Page

Chapter I—Continued

98.4 (i)(2) and (m)(2)(i) revised 79137
98.6 Amended.... 39759, 57686, 66457, 74487, 74816, 79137
98.7 (d)(1) through (5), (7) through (10), (e)(10), (11), (25), (42) and (f)(2) revised; (e)(43), (44), (k), (l) and (m) added 39759
(a) removed; (e)(45) added 66458
(p) and (q) added 74488
(d)(1) through (8) and (e)(30) revised; (e)(46), (47), (m)(3) through (7) and (n) added 74816
(b), (d)(11), (e)(7), (28), (39), (f)(1) and (g)(3) removed; (d)(1) through (10), (e)(4), (8), (10), (11), (14), (15), (19), (20), (24) through (27), (30), (33), (36), (f)(2) and (m)(3) revised; (e)(48), (49) and (m)(8) through (14) added 79138
98.1—98.9 (Subpart A) Tables A–3, A–4 and A–5 added 12456
Tables A–3, A–4 and A–5 corrected 14081
Regulation at 75 FR 12456 withdrawn 22699
Tables A–3, A–4 and A–5 added 39760
Table A–4 amended 74488
Tables A–3, A–4 and A–5 amended 74817
Table A–3 amended 75078
Table A–5 amended 79140
Table A–6 added; interim 81344

40 CFR—Continued

75 FR Page

Chapter I—Continued

98.30 (b)(4) and (c) introductory text revised; (d) added 79140

98.32 Revised 79140

98.33 (e)(4) removed; (a)(5)(iii)(D) and (e)(5) redesignated as (a)(5)(iv) and new (e)(4); (a) introductory text, (1), (2)(ii)(B), (3)(iv), (v), (4)(iii), (iv), (5) introductory text, (i) introductory text, (A), (B), (ii) introductory text, (A), (iii) introductory text, (A), (B), new (iv), (b)(1)(iv), (2)(ii), (3)(ii)(A), (iii) introductory text, (B), (4)(ii)(A), (B), (E), (F), (iii) introductory text, (5), (c)(1) introductory text, (4)(i), (ii), (5), (d)(2), (e) introductory text, (1), (2) introductory text, (iv), (vi)(C) and (3) revised; (a)(2)(i), (ii) introductory text, (A), (3)(iii) and (b)(6) amended; (a)(4)(viii), (b)(1)(v), (vi), (vii), (3)(iv), (4)(iv), (c)(1)(i), (ii), (6) and new (e)(5) added; (b)(4)(i), (6), (c)(1), (2), (4) introductory text, (d)(1), (e)(2)(iii) and new (e)(4) amended 79140

98.34 (b)(4) and (g) removed; (b)(5) redesignated as new (b)(4); (a)(2), (3), (6), (b)(1) introductory text, (i), (ii), (iii), (vi), (3)(ii), (v), new (4), (c) introductory text, (1)(i), (ii), (2), (3), (4), (d), (e), (f) introductory text, (1), (3), (5) and (6) revised; (c)(6), (7), (f)(7) and (8) added 79146

98.35 (a) revised 79150

40 CFR—Continued

75 FR Page

Chapter I—Continued

98.36 (b)(9), (10), (c)(1)(ii), (iii), (ix), (2)(viii), (3)(ii), (viii), (e)(2)(x)(B) and (C) removed; (b)(6), (7), (8), (c)(1)(viii), (2)(vi), (vii) and (e)(2)(x)(D) redesignated as new (b)(8), (9), (10), (c)(1)(x), (2)(viii), (ix) and (e)(2)(x)(B); (b)(5), new (8), new (9), (c)(1)(vi), (vii), new (x), (2) introductory text, (ii), (iii), (v), new (viii), new (ix), (3) introductory text, (iii), (vii), (d), (e)(1)(iii), (2)(i), (ii)(C), (D), (iii), (iv)(A), (C), (v)(C), (vii)(A), (ix) introductory text, (x) introductory text, new (B) and (xi) revised; new (b)(6), (7), (c)(1)(viii), (ix), (2)(vi), (vii), (3)(viii), (ix), (4), (e)(2)(iv)(F), (G) and (v)(E) added 79151

98.30—98.38 (Subpart C) Table C–1 amended 79153

First Table C–2 removed; second Table C–2 revised 79154

98.40 (a) revised 79155

98.43 Revised 79155

98.46 Revised 79155

98.47 Revised 79155

98.53 Revised 66458

98.54 (a) introductory text, (3), (c) introductory text, (e) and (f) revised; (a)(1) and (d) introductory text amended 66460

98.56 introductory text, (c), (j) introductory text, (1) and (k) introductory text revised; (l) added 66460

98.57 (c) and (f) revised 66461

98.62 (a) and (b) revised 79155

98.63 (a) and (b) amended; (c) revised 79155

98.64 (a) amended; (b) revised 79155

98.65 (a) amended 79156

98.66 (c)(1) revised 79156

98.60—98.68 (Subpart F) Table F–1 revised; Table F–2 amended 79156

98.72 (a) and (b) revised 79156

98.73 (b) introductory text revised; (b)(1), (2), (3) and (5) amended; (b)(6) removed 79156

98.74 (d) revised; (f) removed 79156

98.75 (a) amended; (b) revised 79157

40 CFR—Continued

75 FR Page

Chapter I—Continued

98.76 (a) introductory text and (b)(6) revised; (b)(12) through (15), (17) and (c) removed; (b)(16) redesignated as new (b)(12); new (b)(13) added 79157
98.83 (d)(3) amended 66461
98.84 (b) through (f) revised 66461
98.86 (b)(3), (4), (12) and (13) revised; (b)(15) added 66461
98.87 Revised 66461
98.90—98.98 (Subpart I) Added 74818
98.112 (a) revised 66461
98.113 Introductory text revised 66461
98.116 (b), (c), (d) introductory text, (1) and (e)(1) revised 66462
98.120—98.128 (Subpart L) Added 74831
98.144 (b) revised 66462
98.146 (a) introductory text, (2), (b)(7) and (9) revised 66462
98.140—98.148 (Subpart N) Table N–1 amended 66462
98.154 (k) and (l) introductory text amended; (o) revised 66462
98.156 (b)(1), (3), (c), (d) and (e) introductory text revised 66463
98.157 (b)(1) revised 66463
98.160 (c) revised 66463
98.162 (a) revised; (b) removed 66463
98.163 Introductory text, (a), (b) introductory text, (2) introductory text and (3) introductory text revised; (b)(1) amended 66463
(b)(1) amended 79157
98.164 (b)(1), (2) and (5) introductory text revised 79157
98.166 Introductory text, (a)(1), (b)(1) and (c) revised 66463
98.172 (b) and (c) revised 66463
98.173 Introductory text, (b)(1)(vi) and (d) amended 66464
98.174 (c)(2) amended; (c)(7) revised 66464
98.175 Introductory text revised 66464
98.176 Introductory text, (c) and (e)(3) revised; (g) and (h) added 66464
98.177 (d) revised 66464
98.190 (a) revised 66464
98.193 (b)(2)(i) through (iv) amended 66464
98.194 (a) amended; (c) introductory text and (d) revised 66465

40 CFR—Continued

75 FR Page

Chapter I—Continued

98.195 Introductory text amended; (a) revised 66465
98.196 Revised 66465
98.200—98.208 (Subpart T) Added 39761
98.223 (a)(1), (2)(ii), (b) introductory text, (1), (2), (c), (d) introductory text, (e) and (g) revised; (f) removed; (i) added 66466
98.224 (a), (e) and (f) revised; (d) introductory text amended 66467
98.226 Introductory text, (g), (m) introductory text and (n) introductory text revised; (p) added 66468
(o) removed 79157
98.230—98.238 (Subpart W) Added 74488
98.240 (a) revised; (g) added 79157
98.242 (a)(1) and (b) introductory text revised 79157
98.243 (b) and (c)(5)(i) amended; (c)(3) and (d) revised 79157
98.244 (b)(1), (2), (3), (4) introductory text and (viii) revised; (b)(4)(xi) through (xv) added 79158
98.246 (a) introductory text, (4), (10), (b) introductory text, (1) through (5) and (c) revised; (a)(7) removed; (a)(11) added 79159
98.247 (a) and (c) revised; (b)(4) added 79160
98.252 (a) revised; (i) amended 79160
98.253 (b)(1)(ii)(A), (c)(1)(ii), (2)(ii), (h) introductory text, (2), (m) introductory text and (n) revised; (b)(1)(ii)(B), (iii)(C), (c)(2)(i), (e)(3), (f) introductory text, (1), (4), (g)(2), (i)(1), (j), (k), (m)(1) and (2) amended 79160
98.254 (a), (b), (c), (d) introductory text, (e) introductory text, (f) introductory text, (1) and (g) revised; (d)(6) added; (f)(2), (4) and (l) removed; (h) amended 79163

40 CFR—Continued

75 FR Page

Chapter I—Continued

98.256 (e)(7), (8), (9), (f)(9) through (12) and (j)(8) redesignated as (e)(8), (9), (10), (f)(10) through (13) and (j)(9); new (e)(7), (f)(9), (h)(7) and new (j)(8) added; (e)(6), new (8), new (9), (f)(6), (7), (8), new (11), new (12), new (13), (g)(5), (h)(2), (4), (i)(5), (6), (8), (j)(2), (k)(1), (3), (l) introductory text, (5), (m) and (o)(1) through (4) revised; (h)(6) amended 79164

98.257 Revised 79166

98.263 (b)(1) revised 66468

98.264 (a) and (b) revised 66468

98.265 (a) amended 66469

98.266 Introductory text, (c), (f) introductory text, (2), (4) and (5) revised; (f)(9) added 66469

98.273 (a)(1), (2), (b)(1), (2), (c)(1) and (2) revised; (a)(3) amended 79166

98.276 Introductory text and (e) revised 79166

98.270—98.278 (Subpart AA) Table AA–2 revised 79166

98.294 (a)(1) amended 66469

98.296 (a)(1), (b)(3), (6) and (10) revised; (b)(11)(iv), (v) and (vi) removed 66469

98.300—98.308 (Subpart DD) Added 74855

98.314 (e) revised 66469

98.316 (b)(9) and (11) revised 66469

98.320—98.328 (Subpart FF) Added 39763

98.333 Amended 66470

98.336 (a) introductory text, (b)(1), (7) and (10) revised 66470

98.340 (b) revised 66470

98.343 (a)(1) and (2) amended; (a)(3) redesignated as (a)(4); new (a)(3) added; new (a)(4), (b)(1), (2) introductory text, (ii), (iii)(A), (B) and (c) introductory text revised 66470

98.344 (a), (b)(6)(ii) introductory text, (A), (B) and (d) revised; (b) introductory text, (6)(iii), (c) introductory text and (e) amended 66472

98.346 (a), (b), (c), (d)(1), (f), (h), (i)(1) through (5) and (7) revised 66472

98.347 Amended 66473

98.348 Revised 66473

40 CFR—Continued

75 FR Page

Chapter I—Continued

98.340—98.348 (Subpart HH) Table HH–1 revised 66473

Tables HH–2 and HH–3 amended 66474

98.350—98.358 (Subpart II) Added 39767

98.386 (a)(3), (7), (16), (17), (b)(3) and (c)(3) revised; (a)(5) and (6) amended; (d) added 66475

98.393 (a)(1), (2), (f)(1), (h)(1) and (2) amended; (b)(1), (h)(3) and (4) revised; (i) added 66475

98.394 (a)(1) introductory text and (d)(1) through (4) revised; (a)(3) added 66477

98.396 (a)(3), (7), (16), (17), (20)(ii), (iii), (iv), (b)(3) and (c)(3) revised; (a)(5) and (6) amended; (a)(20)(v), (vi), (22), (23) and (d) added 66477

98.397 (b) amended; (e) removed; (f) and (g) redesignated as new (e) and (f) 66478

98.398 Revised 66478

98.403 (a)(1), (2), (b)(3), (c)(1) and (2) amended 66478

98.406 (a)(6) and (9) introductory text revised 66479

98.407 (a) and (d) revised 66479

98.400—98.408 (Subpart NN) Tables NN–1 and NN–2 revised 66479

98.410 (b) revised 79167

98.414 (a) amended; (h) revised; (j) removed; (n) through (q) added 79167

98.416 (a)(3), (11), (15), (b) introductory text, (1), (c) introductory text, (1), (10), (d) introductory text and (e) introductory text revised; (a)(4) removed; (f), (g) and (h) added 79168

98.417 (a)(2), (b) and (d)(2) revised; (f) and (g) added 79168

98.418 Revised 79169

98.422 (a) and (b) revised 79169

98.423 (a) introductory text, (1) and (2) amended; (b) redesignated as (c); (a)(3) and new (c) revised; new (b) added 79169

98.424 (a)(1), (2) and (5) revised; (b)(2) amended; (c) added 79170

98.425 (a) introductory text revised; (d) added 79171

40 CFR—Continued

75 FR Page

Chapter I—Continued

98.426 (a) introductory text, (2), (b) introductory text, (2), (3), (4), (c) and (e)(1) revised; (a)(5) and (b)(7) added 79171

98.430—98.438 (Subpart QQ) Added 74856

98.440—98.449 (Subpart RR) Added 75078

98.450—98.458 (Subpart SS) Added 74859

98.460—98.468 (Subpart TT) Added 39773

98.470—98.478 (Subpart UU) Added 75086

2011

40 CFR

76 FR Page

Chapter I

97 Policy statement 42055

97.401—97.435 (Subpart AAAAA) Added 48379

97.501—97.535 (Subpart BBBBB) Added 48406

97.510 Revised 80775

97.521 (a), (b) introductory text, (1), (2) and (3) amended 80777

97.601—97.635 (Subpart CCCCC) Added 48432

97.701—97.735 (Subpart DDDDD) Added 48458

98.1 (a) revised 73898

(c) added 80573

98.2 (d), (e), (f) introductory text, (h) and (i)(3) revised 73899

98.3 (b) introductory text, (c)(4)(vii) and (d)(3) introductory text revised; second (c)(4)(vi) redesignated as (c)(4)(viii) 14818

98.3 (c)(4)(vii) revised 53065

(b) introductory text, (c)(5)(ii), (7), (10) and (11) revised; (b)(1) and (4) added; (g) introductory text amended 73899

98.4 (m)(4) revised 73900

98.6 Amended 73900, 80573

98.9 Introductory text revised 73900

98.1—98.9 (Subpart A) Table A–6 amended 14818

98.1—98.9 (Subpart A) Table A–6 revised; Table A–7 added 53065

Table A–3 amended 73900

Table A–5 amended 73901

98.93 (a)(2)(ii) introductory text revised 59551

40 CFR—Continued

76 FR Page

Chapter I—Continued

98.94 (a)(1) introductory text and (4)(i) revised 59551

98.94 (a)(1) introductory text, (3) introductory text, (i) and (4)(i) revised 36342

98.230 (a)(2), (3), (4) and (8) revised 80574

98.232 (a), (c) introductory text, (22), (d) introductory text, (e) introductory text, (f) introductory text, (g) introductory text, (h) introductory text, (i) and (k) revised; (j) removed 80574

98.233 (f)(3)(i), (ii), (g)(1)(ii)(D), (5) and (h)(1) removed; (g)(1)(ii)(A), (B), (C), (6), (i), (ii), (h)(2), (3) introductory text, (n)(9), (z)(4), (5) and (6) redesignated as (g)(1)(iii), (iv), (v), new (5), (i), (ii), new (h)(1), (2) introductory text, (n)(10), (z)(2)(iv), (v) and (vi); (a), (c), (d)(2), (4) introductory text, (e)(2), (5) introductory text, (f)(3) introductory text, (g)(1)(ii), (j)(1), (5), (8), (m)(3), (n)(4), (o)(6), (7), (p)(7)(i) introductory text, (9), (r), (t)(1), (2), (v), (w)(3), (x)(2) and new (z)(2)(vi) amended; (a)(3), (k)(2)(iv), new (n)(9), (11), (t)(3) and new (z)(4) added; (d) introductory text, (1), (3), (e) introductory text, (1) introductory text, (vii), (xi) introductory text, (A), (B), (C), (2) introductory text, (6), (f)(1) introductory text, (i)(A), (B), (C), (2), (g) introductory text, (1) introductory text, (i), (ii) introductory text, new (iii), new (iv), new (v), (3), (h) introductory text, new (1), (i), (j)(1)(vii) introductory text, (B), (C), (2), (3) introductory text, (i), (4) introductory text, (k) introductory text, (1), (2) introductory text, (i). (4), (l)(1), (3), (m)(1), (n)(2)(ii), (iii), (q) introductory text, (8), (r) introductory text, (2)(i)(A), (6)(i), (ii), (t) introductory text, (1) introductory text, (2), (u) introductory text, (2), (z) introductory text, (1), (2) introductory text, (i), (ii), (iii) and (3) revised 80575

40 CFR—Continued

76 FR Page

Chapter I—Continued

98.234 (f)(2) introductory text, (3) introductory text, (5)(i), (ii), (iii)(A), (iv)(A), (6) introductory text, (i), (ii)(D), (iii), (7) introductory text, (i) and (iii) revised 22827

98.234 (f)(1) introductory text, (2) introductory text, (3) introductory text, (4) introductory text, (5) and (8) revised; (f)(6) and (7) removed 59540

(a)(1), (2), (5), (c) introductory text and (d)(3) revised; (a)(4) removed; (e) amended; (g) added 80586

98.236 (a) introductory text, (8), (b), (c) introductory text, (1)(iv), (2)(ii), (3)(ii) through (v), (4)(i)(H), (J), (ii)(B), (C), (iii)(B), (5), (6) introductory text, (i), (ii)(B), (D), (7), (8)(i) introductory text, (J), (ii) introductory text, (D), (G), (iii) introductory text, (F), (9) introductory text, (i), (10) introductory text, (iv), (11) introductory text, (iii), (12)(vi), (15) introductory text, (i)(A), (B), (C), (ii)(A), (B), (C), (16), (17)(v), (18) introductory text, (iii), (19)(iii), (v), (vi) and (vii) revised; (c)(3)(vi), (vii), (4)(i)(K), (L), (ii)(D), (6)(ii)(E), (8)(i)(K), (L), (ii)(H), (I), (iii)(G), (H), (iv)(B), (9)(ii), (iii), (10)(v), (11)(iv), (12)(vii) through (xi) and (e) added 80587

98.237 (e) added 80590

98.238 Amended 80590

98.230—98.238 (Subpart W) Table W–1A revised 80591

Table W–2 revised 80592

Tables W–3 and W–4 revised 80593

Tables W–5, W–6 and W–7 revised 80594

98.322 (f) revised 73901

98.323 (a), (2), (b) introductory text and (1) amended; (c) introductory text revised 73901

98.324 (b)(1), (2), (c), (d), (e) introductory text, (g) and (h) revised 73901

98.325 (b) amended 73903

98.326 (f), (h), (j), (k) and (o) revised 73903

40 CFR—Continued

76 FR Page

Chapter I—Continued

98.350 (b) introductory text amended 73903

98.352 (d) revised 73903

98.353 (a)(2) introductory text, (c) introductory text, (1) introductory text, (2), (d) introductory text and (2) introductory text revised; (c)(1), (d)(1) and (2) amended 73903

98.354 (c) amended; (d) introductory text, (f), (g) introductory text, (h) introductory text, (5) and (k) revised 73904

98.355 (b) revised 73905

98.356 (a) introductory text, (b)(3), (4), (d) introductory text, (2), (4), (6) and (8) revised 73905

98.416 (a)(8) and (9) removed; (a)(10) revised 73905

98.417 (a)(3) and (4) added 73905

98.442 (e) and (f) revised 73905

98.443 (d) introductory text and (3) introductory text revised; (f)(1) and (2) amended 73906

98.444 (d) heading revised 73906

98.445 (e) revised 73906

98.446 (a)(2) introductory text, (3) introductory text, (e), (f) introductory text, (1)(vii) and (3) revised 73906

98.447 (a)(5) and (6) revised 73906

98.448 (a)(5) and (e) revised 73907

98.449 Amended 73907

98.460 (c)(1) and (2)(i) revised 73907

98.463 (a)(1), (2) introductory text and (ii)(C) revised 73907

98.464 (b) introductory text, (1), (3) and (4) revised; (c) through (f) redesignated as (d), (e), (f) and (h); new (c) and (g) added 73908

98.466 (b) introductory text, (2), (c)(3)(ii), (d), (f) and (g)(1) revised; (b)(3) and (4) added 73909

98.467 Revised 73910

98.468 Amended 73910

98.460—98.468 (Subpart TT) Table TT–1 amended 73910

2012

40 CFR

77 FR Page

Chapter I

97 State implementation plan determinations 5710

40 CFR—Continued

77 FR Page

Chapter I—Continued

97.406 (c)(3) redesignated as (c)(3)(i) in part; (c)(3)(ii) added; new (c)(3)(ii) and (e)(2) amended 10334

97.410 Revised 10334

(a)(2)(iv), (v), (6), (11), (14), (16), (20), (b)(2), (6), (11), (14), (16) and (20) revised 10347

Regulation at 77 FR 10347 withdrawn 28786

(a)(2)(iv), (v), (6), (11), (14), (16), (20), (b)(2), (6), (11), (14), (16) and (20) revised; eff. 8-13-12 34844

97.425 (b)(1) introductory text amended 10336

97.506 (c)(3) redesignated as (c)(3)(i) in part and amended; (c)(3)(ii) added 10336

97.510 Revised 10336

(a)(2), (4)(iv), (v), (9), (12), (13), (15), (17), (18), (22), (b)(2), (4), (9), (12), (13), (15), (17), (18) and (22) revised 10348

Regulation at 77 FR 10348 withdrawn 28786

(a)(2), (4)(iv), (v), (9), (12), (13), (15), (17), (18), (22), (b)(2), (4), (9), (12), (13), (15), (17), (18) and (22) revised; eff. 8-13-12 34845

97.525 (b)(1) introductory text amended 10338

97.606 (c)(3) redesignated as (c)(3)(i) in part and amended; (c)(3)(ii) added; (e)(2) amended 10338

97.610 Revised 10339

(a)(2), (7)(ii), (v), (9), (11), (b)(2), (9) and (11) revised 10348

Regulation at 77 FR 10348 withdrawn 28786

(a)(2), (7)(ii), (v), (9), (11), (b)(2), (9) and (11) revised; eff. 8-13-12 34846

97.625 (b)(1) introductory text amended 10340

97.706 (c)(3) redesignated as (c)(3)(i) in part and amended; (c)(3)(ii) added; (e)(2) amended 10340

97.710 Revised 10340

(a)(2)(iv), (v), (3), (5), (6), (b)(2), (3), (5) and (6) revised 10349

Regulation at 77 FR 10349 withdrawn 28786

40 CFR—Continued

77 FR Page

Chapter I—Continued

(a)(2)(iv), (v), (3), (5), (6), (b)(2), (3), (5) and (6) revised; eff. 8-13-12 34846

97.725 (b)(1) introductory text amended 10340

98.3 (c)(4) introductory text, (i), (iii)(E) and (vi) revised; (c)(4)(iii)(F) added 51488

98.1—98.9 (Subpart A) Tables A-6 and A-7 amended 48088

Table A-7 amended 51489

98.90 (a)(5) revised 10380

98.91 (a)(4) amended 10380

98.92 (a) introductory text and (5) revised 10380

98.93 (h) introductory text revised; (h) amended; (h)(1) and (2) added 10380

98.94 (h) introductory text and (3) revised 10380

(a)(2)(iii), (3)(iii) and (4)(iii) revised 48089

98.95 (b) revised 10381

98.96 (c)(4), (r) and (s) revised; (u) and (v) added 10381

98.98 Amended 10381

98.90—98.98 (Subpart I) Table I-2 revised 10381

98.126 (a) introductory text and (5) revised; (j) added 51489

98.127 Introductory text revised; (k) added 51490

98.128 Amended 51490

98.233 (e)(5), (f)(1), (2), (3), (g), (1)(ii), (iii), (h), (i)(3), (j), (l)(3) introductory text, (o)(5) introductory text, (6), (7), (p)(7) introductory text, (i) introductory text, (t)(1), (v), (z)(2)(iii) and (vi) amended; (f)(1) introductory text, (1)(i) introductory text, (A), (3) introductory text, (g)(1) introductory text, (3)(i), (j)(5) introductory text, (r)(2) introductory text, (6)(ii) introductory text and (t) introductory text, (1) introductory text revised; (n)(7) removed 51490

98.236 (c)(5)(ii)(D), (9) introductory text, (13)(i)(G), (ii)(C), (iii)(C), (iv), (v)(B), (14)(i)(C), (ii)(C), (iii)(C), (iv), (v)(B), (15)(i)(B), (i)(C), (ii)(A) and (17)(v) revised 51494

98.230—98.238 (Subpart W) Table A-1A revised 51494

40 CFR—Continued

77 FR Page

Chapter I—Continued
Table W-5 amended 51495
98.460 (c)(2)(xiii) added 51495
98.464 (b) revised 51495

2013

40 CFR

78 FR Page

Chapter I
98.3 (c)(1), (h)(4) and (j)(3)(ii) revised; (c)(11)(viii), (13), (k) and (l) added.....71946
98.6 Amended.....71948
98.7 (e)(30), (m)(3) and (n)(1) revised; (n)(2) removed 68202
(n) removed.....71948
98.1—98.9 (Subpart A) amended 68202
Table A-1 revised.....71948
Table A-6 amended 71949
Table A-7 amended 71950
98.33 (b)(1)(viii) added; (b)(3)(ii)(A) and (e)(1)(ii) revised.....71950
98.36 (b)(3) revised; (c)(3) introductory text amended; (b)(11), (c)(1)(xi), (2)(x), (xi), (3)(x), (d)(1)(x), (2)(ii)(J) and (iii)(J) added.....71950
98.30—98.38 (Subpart C) Table C-1 revised 71950
Table C-2 revised 71952
98.53 (b)(3), (d) introductory text and (e) revised; (e), (g)(1), (2) and (3) amended 71952
98.54 (e) and (f) revised.....71953
98.73 (b)(4) introductory text revised; (b)(4) and (5) amended 71953
98.75 (b) revised.....71953
98.76 (a) introductory text, (b) introductory text and (13) revised.....71953
98.86 (a)(2) revised.....71953
98.91 (a)(3) and (b) amended 68202
98.92 (a) introductory text, (1) and (6) revised; (a)(2) and (3) removed 68202
98.93 (a), (b), (c) introductory text, (d) introductory text, (e) introductory text, (g) and (h) introductory text revised; (f) and (h)(2) removed; (c), (d), (e), (h) amended; (i) added 68202

40 CFR—Continued

78 FR Page

Chapter I—Continued
98.94 (a), (d), (e), (g)(1) and (2) removed; (b), (c) introductory text, (2), (f), (g)(3), (4), (h) introductory text, (3) and (i) revised; (c)(3), (j) and (k) added 68209
98.96 (m)(i) through (iv) redesignated as (m)(1) through (4); (a), (b), (c) introductory text, (1), (2), (3), (m) introductory text, new (m)(1), new (3), new (4), (p), (q), (r) and (s) revised; (c)(5), (m)(5), (w), (x) and (y) added; (f), (g), (h), (i), (j), (k), (l), (n), (o), (t), (u) and (v) removed 68215
(y)(3)(i) revised 71954
98.97 (b) removed; (c), (d) introductory text, (1) and (4) revised; (d)(5) through (9) and (i) through (s) added 68218
98.98 Amended 68220
98.90—98.98 (Subpart I) Table I-1 amended.....68221
Table I-3 Revised.....68222
Table I-4 Revised.....68223
Table I-5 Heading revised; amended 68225
Table I-6 Heading revised; amended 68225
Table I-7 Heading revised; amended 68226
Table I-9 Added 68227
Table I-10 Added.....68228
Table I-11 Added.....68229
Table I-12 Added.....68230
Table I-13 Added.....68231
Table I-14 Added.....68232
Table I-15 Added.....68233
Table I-16 Added.....68234
Table I-17 Added.....68234
Appendix A Added 68234
98.113 (d)(1) amended.....71954
98.116 (e)(2) added.....71954
98.126 (j) introductory text, (1) and (3)(i) revised 71954
98.143 Introductory text and (b) introductory text revised; (b)(2)(iv) amended.....71954
98.144 (b) revised 71954
98.146 (b)(4), (6) and (7) revised 71954
98.147 (b)(5) revised 71954
98.153 (c) introductory text and (d) introductory text revised; (d) amended 71955
98.154 (j) revised.....71955
98.156 (c) revised 71955

40 CFR—Continued

78 FR Page

Chapter I—Continued

98.163 (b) introductory text revised; (b)(1), (2) and (3) amended 71955
98.164 (b)(3), (4) and (5) introductory text revised; (c) and (d) removed 71955
98.166 (a)(2), (3), (b)(2) and (5) revised 71955
98.167 (c) and (d) added 71956
98.170 Amended 71956
98.173 (b)(1)(i), (ii), (iii), (iv), (v), (vi) and (vii) amended; (c) and (d) revised 71956
98.174 (b)(1) amended; (c)(2) revised 71957
98.175 (a) revised 71958
98.176 (e) introductory text revised 71958
98.177 (b) revised 71958
98.190 (a) revised 71958
98.193 (a), (b)(1), (2) introductory text, (ii) introductory text, (iii) introductory text and (iv) introductory text revised; (b)(2)(ii), (iii) and (iv) amended 71958
98.194 (a), (b) and (c) introductory text revised 71958
98.195 (a) revised 71959
98.196 (a)(1), (2), (4), (5), (7), (b)(1) through (6), (9), (10), (11) and (14) revised 71959
98.222 (a) revised 71959
98.223 (b) introductory text, (1), (3), (d) introductory text, (e) introductory text, (g)(2) introductory text, (3) introductory text and (i) revised; (e), (g)(1), (2), (3) and (4) amended 71959
98.224 (c) introductory text, (e) and (f) revised 71960
98.226 (a) and (p) revised; (o) added 71960
(n) introductory text corrected; CFR correction 23149
98.233 (a), (c) and (v) amended 71960
98.234 Regulation at 78 FR 11589 withdrawn 19605
(f)(8)(i) revised 25395
98.234 (f)(8)(i) revised 11589
98.242 (b)(2) revised 71960
98.243 (b), (c)(3), (4) and (d)(3)(i) revised; (c)(5)(i) amended 71961
98.244 (b)(4) introductory text, (xiii), (xiv) and (xv)(A) revised; (c) added 71961

40 CFR—Continued

78 FR Page

Chapter I—Continued

98.245 Revised 71962
98.246 (a)(6), (8), (9), (11) introductory text, (iii), (b)(2) through (5) and (c)(4) revised; (b)(6) removed 71962
98.247 (b) introductory text, (2) and (3) revised 71962
98.248 Amended 71963
98.252 (a) introductory text amended; (i) revised 71963
98.253 (b)(2) and (3), (f)(4) amended; (f)(2), (3), (4) introductory text, (j) introductory text, (k) introductory text and (m) introductory text revised 71963
98.256 (f)(6), (h) introductory text, (2) through (6), (k)(4) and (o)(4)(vi) revised; (j)(10) and (k)(6) added; (o)(5), (6) and (7) removed 71963
98.263 (b)(1)(ii) introductory text revised; (b)(1)(ii) amended 71964
98.264 (a) and (b) revised 71964
98.265 Revised 71964
98.266 (a), (b), (d), (f)(5), (6) and (8) revised 71964
98.267 (a) and (c) revised 71965
98.273 (a)(3) introductory text revised; (a)(3) amended 71965
98.276 (e) and (k) revised 71965
98.270—98.278 (Subpart AA) Table AA-1 revised 71965
Table AA-2 revised 71965
98.282 (a) revised 71966
98.283 Introductory text, (a), (b) introductory text and (2) introductory text revised; (b)(2) amended; (d) removed 71966
98.286 (b) introductory text revised 71966
98.304 (c)(1) and (2) revised 71966
98.320 (b)(1) and (2) revised 71966
98.322 (b) and (d) revised 71966
98.323 (a)(2), (b)(1) and (c) introductory text revised; (a), (b), (2) and (c)(1) amended 71966
98.324 (b) introductory text and (c)(2) revised 71967
98.326 (a), (f), (h), (i), (j), (o) and (r) revised; (t) added 71967
98.340 (a) revised 71968
98.343 (a)(1), (b)(1) and (c)(1) amended; (b)(2)(i), (ii), (iii)(A), (B), (c)(3)(i) and (ii) revised 71968
98.344 (e) revised; (f) added 71969
98.345 (c) revised 71970

40 CFR—Continued

78 FR Page

Chapter I—Continued

98.346 (d)(1), (e), (h), (i)(5) through (8), (10), (11) and (12) revised 71970
98.348 Amended 71970
98.340—98.348 (Subpart HH) Table HH-1 amended 71970
Table HH-2 revised 71971
Table HH-4 added 71971
98.353 (d)(2) amended 71972
98.386 (a)(1), (5), (13), (b)(1) and (c)(1) removed; (a)(4), (8), (9)(v), (11)(v), (12) introductory text, (14), (15), (18), (b)(4), (5)(v), (6)(i), (c)(4), (5)(v), (d)(2) and (3) revised 71972
98.393 (a)(1) and (2) amended; (h)(1) introductory text and (2) introductory text revised 71973
98.394 (a)(1) introductory text, (3), (c) introductory text revised; (b)(3) added; (d) removed 71973
98.395 (a) introductory text and (b) revised; (c) removed 71973
98.396 (a)(1), (4), (5), (8), (13), (15), (23), (b)(1), (4), (c)(1) and (4) removed; (a)(9) introductory text, (iii), (v), (10) introductory text, (11) introductory text, (iii), (18), (20), (21), (22), (b)(2), (5) introductory text, (6) introductory text, (c)(5) introductory text, (6) introductory text, (d)(2) and (3) revised 71973
98.397 (b) and (d) revised 71974
98.398 Amended 71974
98.390—98.398 (Subpart MM) Table MM-1 amended 71974
98.400 (a) and (b) revised 71975
98.403 (a)(2), (b)(2)(ii) and (c)(2) amended; (b)(1) introductory text, (2)(i), (3), (4) and (c)(2) introductory text revised 71975
98.404 (a)(8)(iii) and (d)(3) added; (a)(5) introductory text, (7), (8) introductory text, (ii), (9), (c)(2), (d)(1) and (2) revised 71976
98.405 (c)(3) removed 71977
98.406 (a)(4), (7), (b)(2), (3), (5), (7), (9) and (12) introductory text revised; (b)(4) removed 71977
98.407 Introductory text revised 71977
98.400—98.408 (Subpart NN) Table NN-1 revised 71977
Table NN-2 revised 71977
98.423 (a)(3)(i) introductory text revised 71977

40 CFR—Continued

78 FR Page

Chapter I—Continued

98.426 (b)(4)(i), (ii), (f)(10) and (11) revised 71977
98.433 (a) and (b) amended 71978
98.434 (b) revised 71978
98.436 (a)(3), (4), (6)(ii), (iii), (b)(3), (4), (6)(ii) and (iii) revised; (a)(5), (6)(iv), (b)(5) and (6)(iv) removed 71978
98.438 Amended 71978
98.443 (b)(2), (d)(3) introductory text and (f)(2) amended 71978
98.446 (b)(5) revised 71979
98.453 (d) and (h) revised; (i) amended 71979
98.456 (m), (o) and (p) revised 71979
98.460 (c)(2)(xiii) revised 71979
98.463 (a)(1), (2)(ii)(C) and (b)(1) amended 71979
98.464 (b) introductory text and (c) revised; (b)(4)(i)(E) amended 71979
98.466 (c)(1) removed; (b)(5) and (c)(5) added; (b)(1), (c) introductory text, (2), (3) introductory text, (4) introductory text, (d)(3) and (h) revised 71980
98.467 Revised 71980
98.468 Amended 71980
98.460—98.468 (Subpart TT) Table TT-1 amended 71981
98.473 (a)(2) and (b)(2) amended 71981
98.476 (b)(5) revised; (e) added 71981

2014

40 CFR

79 FR Page

Chapter I

97 Policy statement 71674
97.406 Amended; interim 71672
97.410 Amended; interim 71672
97.411 Amended; interim 71672
97.412 Amended; interim 71672
97.421 Amended; interim 71672
97.425 Amended; interim 71672
97.430 Amended; interim 71672
97.434 Amended; interim 71672
97.506 Amended; interim 71672
97.510 Amended; interim 71672
97.511 Amended; interim 71672
97.512 Amended; interim 71672
97.521 Amended; interim 71672
97.525 Amended; interim 71672
97.530 Amended; interim 71672
97.534 Amended; interim 71672
97.606 Amended; interim 71672
97.610 Amended; interim 71672

40 CFR—Continued

79 FR Page

Chapter I—Continued

97.611 Amended; interim 71672
97.612 Amended; interim 71672
97.621 Amended; interim 71672
97.625 Amended; interim 71672
97.630 Amended; interim 71672
97.634 Amended; interim 71672
97.706 Amended; interim 71672
97.710 Amended; interim 71672
97.711 Amended; interim 71672
97.712 Amended; interim 71672
97.721 Amended; interim 71672
97.725 Amended; interim 71672
97.730 Amended; interim 71672
97.734 Amended; interim 71672
98.2 (b)(1), (4) and (f)(1) revised 73776
98.3 (c)(4)(vii), (d)(3)(v), (g) introductory text and (2)(i) revised 63779
(c)(4)(iii)(E), (F), (5)(i), (ii), (k), (l) introductory text, (1), (2) introductory text, (i), (ii)(C), (D), (E) and (iii) revised; (c)(4)(vi) removed 73777
(l) introductory text, (1) introductory text and (2) introductory text correctly revised 77391
98.5 Revised 63780
(b) revised 73778
98.6 Amended 70385, 73778
98.1—98.9 (Subpart A) Table A-7 revised 63780, 73783
Table A-1 revised 73779
98.36 (a), (b)(9)(iii), (c)(2)(ix), (x) and (e)(2)(ii)(C) revised; (b)(9)(iv), (e)(2)(ii)(E) and (f) added 63782
98.37 Revised 63783
98.56 Introductory text revised; (b), (c), (j)(1) and (3) removed; (m) and (n) added 63784
98.57 Introductory text revised; (i) added 63784
98.66 (a), (c)(2) and (g) removed; (c)(3), (e)(1) and (f)(1) revised 63784
98.67 (i) added 63784
98.76 (b)(2) and (7) through (11) removed; (b)(14) and (15) added 63785
98.77 Introductory text revised; (c) added 63785
98.86 (b)(2), (5), (6), (8), (10) and (12) removed; (b)(13) and (15) revised; (b)(16), (17) and (18) added 63785
98.87 (c) added 63785

40 CFR—Continued

79 FR Page

Chapter I—Continued

98.93 (a)(1)(i), (g) introductory text and (i)(2)(iii) correctly amended 25682
(i)(2) revised 73785
(i)(2) introductory text correctly revised 77391
98.94 (j)(5)(ii)(C) removed; (j)(8)(i) revised 73785
98.96 (r) introductory text, (1) and (2) amended; (x) revised 73785
98.116 (b) and (e)(6) revised; (e)(4) and (5) removed 63785
98.117 Introductory text revised; (e) added 63785
98.122 (c) revised; (d), (e) and (f) added 73785
98.123 Introductory text, (b), (c)(1)(v), (g)(1), (2)(ii) and (iv) revised; (a) and (c)(1)(vi) removed; (e)(i) and (ii) redesignated as (e)(1) and (2); (h) added 73785
98.124 (b), (c)(1), (2) and (5) revised; (c)(7), (8) and (9) redesignated as (c)(6), (7) and (8) 73787
98.126 (a) through (e), (g)(2) and (h)(1) revised; (f)(1), (5), (g)(1) and (h)(2) removed; (k) added 73787
98.127 introductory text, (a)(1), (2), (b), (c) introductory text and (3) revised; (a)(3), (4) and (l) added 73788
98.128 Amended 73789
98.120—98.128 (Subpart L) Table L-1 and Appendix A added 73789
98.146 (b)(2) revised; (b)(4) and (6) removed 63786
98.147 Introductory text revised; (d) added 63786
98.156 (a)(2), (7) through (10), (b)(1), (2), (d)(1), (5) and (e)(1) removed; (d) introductory text revised 63786
98.157 (c) added 63786
98.166 Introductory text revised; (b)(2), (5) and (6) removed; (b)(7) and (e) added 63787
98.167 Introductory text revised; (e) added 63787
98.176 (b) revised; (e)(1), (3), (4), (f)(2), (3), (4) and (g) removed; (e)(6) added 63787
98.177 Introductory text revised; (f) added 63788

40 CFR—Continued

79 FR Page

Chapter I—Continued

98.186 (b)(6) and (7) removed; (b)(8) revised 63792
98.187 Introductory text revised; (d) added 63792
98.196 (b) introductory text revised; (b)(2), (3), (5), (6), (8), (10), (11) and (12) removed; (b)(18) added 63792
98.197 Introductory text revised; (c) added 63792
98.216 (b), (e)(1), (2) and (f) removed 63792
98.217 Introductory text revised; (e) added 63793
98.226 (c) correctly reinstated; CFR correction 63539
Introductory text revised; (c), (d), (i), (j), (m)(1), (3) through (6) and (p) removed; (q) added 63793
98.227 Introductory text revised; (h) added 63793
98.230 (a)(2) revised 70385
98.232 (c)(11), (d)(1), (e)(1), (f)(1), (g)(1), (h)(1) and (i)(1) through (7) revised; (e)(6), (f)(4), (g)(4) and (h)(5) added 70385
98.233 (j)(3) and (4) removed; (j)(5) through (9) redesignated as new (j)(3) through (7); introductory text, (a) introductory text, (1), (2), (c) through (i), (j) introductory text, (1) introductory text, (vii) introductory text, (2), new (3) through (7), (k) through (r), (s)(2) introductory text, (i), (3), (4), (t) introductory text, (1), (2), (u) introductory text, (2)(iii) through (vii), (v), (w) introductory text, (1), (3) introductory text, (x) introductory text, (1) and (z)(1) revised; (a)(4) added; (w)(3), (x)(2), (z)(2)(iii) and (vi) amended 70386
98.234 (a) introductory text, (d)(1) and (f) revised; (g) removed; (h) added 70410
98.235 Revised 70410
98.236 (c)(6)(i)(B), (D), (E), (F), (8)(i)(F) and (ii)(A) revised; (c)(20) added 63793
Revised 70411
98.237 (f) added 70424
98.238 Amended 63794, 70424

40 CFR—Continued

79 FR Page

Chapter I—Continued

98.246 (a) introductory text, (2), (4) and (b) introductory text revised; (a)(12), (13), (b)(9) and (10) added 63794
98.247 Introductory text revised; (d) added 63794
98.256 (e)(6), (7) introductory text, (9), (10), (f)(7), (10) through (13), (h)(5), (i)(5), (7), (8), (j)(5) through (9), (k)(3), (4), (l)(5), (m)(3), (o)(4)(v) and (p)(2) revised; (e)(7)(ii), (h)(4), (j)(2), (o)(2)(ii), (4)(ii), (iii), (iv), (6) and (7) removed 63795
98.257 Revised 63796
98.266 (f)(5) and (6) removed 63797
98.267 Introductory text revised; (d) added 63797
98.276 Introductory text and (c) revised; (b), (d) and (f) through (i) removed; (l) added 63797
98.277 Introductory text revised; (g) added 63798
98.286 (b)(1), (4) and (6) removed 63798
98.287 Introductory text revised; (c) added 63798
98.296 (b)(5), (6) and (7) removed; (b)(10)(v) and (vi) added 63798
98.297 Introductory text revised; (c) added 63798
98.316 (b)(6) and (9) removed 63799
98.317 Introductory text revised; (c) added 63799
98.336 (b)(6), (7) and (10) removed 63799
98.337 Introductory text revised; (c) added 63799
98.400—98.408 (Subpart NN) Table NN-2 correctly amended 3508
98.466 (c)(3)(i) and (iii) removed; (c)(3)(ii) revised 63799
98.467 Revised 63799

2015

(Regulations published from January 1, 2015 through July 1, 2015)

40 CFR

80 FR Page

Chapter I

98.90—98.98 (Subpart I) Tables I-5, I-6 and I-7 corrected; CFR correction 12934
98.153 (d) introductory text amended; CFR correction 33425

40 CFR—Continued

80 FR
Page

Chapter I—Continued

98.244 (b)(4)(ix) correctly reinstated; CFR correction 21650