

MM-13 of this section in place of Equation MM-2 of this section.

$$CO_{2i} = \sum \left[\text{Blending Component}_{i..n} * EF_{i..n} \right] \quad (\text{Eq. MM-13})$$

where:

CO_{2j} = 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 Engi-

neers (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.