

§ 98.231

40 CFR Ch. I (7–1–12 Edition)

(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]

§ 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 CO₂ 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 CO₂ 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 CO₂, CH₄, and N₂O emissions from each industry segment specified in paragraph (b) through (i) of this section, CO₂, CH₄, and N₂O 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 CO₂, CH₄,

and N₂O 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 CO₂, CH₄, and N₂O 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 rod packing 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 CO₂.
- (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 CO₂, CH₄, and N₂O 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 CO₂, CH₄, and N₂O emissions from the following sources:

- (1) Reciprocating compressor rod packing 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 CO₂, CH₄, and N₂O emissions from the following sources:

- (1) Reciprocating compressor rod packing venting.
- (2) Centrifugal compressor venting.
- (3) Transmission storage tanks.
- (4) Blowdown vent stacks.
- (5) Natural gas pneumatic device venting.
- (6) [Reserved]
- (7) Equipment leaks from valves, connectors, open ended lines, pressure relief valves, and meters.

(f) For underground natural gas storage, report CO₂, CH₄, and N₂O emissions from the following sources:

- (1) Reciprocating compressor rod packing venting.
- (2) Centrifugal compressor venting.
- (3) Natural gas pneumatic device venting.
- (4) [Reserved]
- (5) Equipment leaks from valves, connectors, open ended lines, pressure relief valves, and meters.

(g) For LNG storage, report CO₂, CH₄, and N₂O emissions from the following sources:

- (1) Reciprocating compressor rod packing venting.
- (2) Centrifugal compressor venting.

(3) Equipment leaks from valves; pump seals; connectors; vapor recovery compressors, and other equipment leak sources.

(h) LNG import and export equipment, report CO₂, CH₄, and N₂O emissions from the following sources:

(1) Reciprocating compressor rod packing 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.

(i) For natural gas distribution, report CO₂, CH₄, and N₂O emissions from the following sources:

(1) Meters, regulators, and associated equipment at above grade transmission-distribution transfer stations, including equipment leaks from connectors, block valves, control valves, pressure relief valves, orifice meters, regulators, and open ended lines.

(2) Equipment leaks from vaults at below grade transmission-distribution transfer stations.

(3) Meters, regulators, and associated equipment at above grade metering-regulating station.

(4) Equipment leaks from vaults at below grade metering-regulating stations.

(5) Pipeline main equipment leaks.

(6) Service line equipment leaks.

(7) Report under subpart W of this part the emissions of CO₂, CH₄, and N₂O 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 CO₂, CH₄, and N₂O 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.

(1) You must report under subpart PP of this part (Suppliers of Carbon Dioxide), CO₂ 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]

§ 98.233 Calculating GHG emissions.

You must calculate and report the annual GHG emissions as prescribed in this section. For actual conditions, 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 CH₄ and CO₂ emissions from continuous high bleed, continuous low bleed, and intermittent bleed natural gas pneumatic devices using Equation W-1 of this section.

$$Mass_{t,i} = Count_t * EF_t * GHG_i * Conv_i * T_t \quad (\text{Eq. W-1})$$

Where:

Mass_{t,i} = Annual total mass GHG emissions in metric tons CO₂e per year from a natural gas pneumatic device vent of type “t”, 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), (a)(2), and (a)(3) of this section.

EF_t = Population emission factors for natural gas pneumatic device venting listed in Tables W-1A, W-3, and W-4 of this sub-

part 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, concentration of GHG_i, CH₄, or CO₂, in natural gas as defined in paragraph (u)(2)(i) of this section and for onshore natural gas transmission compression and underground natural gas storage, GHG_i equals 0.975 for CH₄ and 1.1 × 10⁻² for CO₂.