

§ 98.394

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(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.

$$CO_{2i} = \sum \left[\text{Blending Component}_{i..n} * EF_{i..n} \right] \quad (\text{Eq. MM-12})$$

where:

CO_{2i} = Annual CO₂ emissions that would result from the complete combustion or oxidation of a blended product “i” (metric tons).

Blending Component_{i..n} = Annual volume or mass of each blending component that is blended (barrels or metric tons).

EF_{i..n} = CO₂ emission factors specific to each blending component (metric tons CO₂ 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.

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

where:

CO_{2j} = Annual CO₂ 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} = CO₂ emission factors specific to each blending component (metric tons CO₂ 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 de-

termined using the same method or practice.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66475, Oct. 28, 2010]

EDITORIAL NOTE: At 75 FR 66475, October 28, 2010, § 98.393 was amended by definition of “Product_i” in Equation MM-2 of paragraph (a)(2); however, the amendment could not be incorporated as instructed.

§ 98.394 Monitoring and QA/QC requirements.

(a) Determination of quantity.

(1) The quantity of petroleum products, natural gas liquids, and biomass, as well as the quantity of crude oil measured on site at a refinery, 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 quantity of crude oil not measured on site at a refinery 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.

(c) Procedures for Calculation Methodology 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.

(d) Measurement of API gravity and sulfur content of crude oil.

(1) A representative sample or multiple representative samples of each batch of crude oil shall be taken 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.

(2) Samples shall be handled 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.

(3) API gravity shall be measured according to one of the following meth-

ods. You may use an appropriate standard method published by a consensus-based standards organization or you may use an industry standard practice. The weighted average API gravity for each batch shall be calculated by multiplying the volume associated with each representative sample by the API gravity, adding these values for all the samples, and then dividing that total value by the volume of the batch.

(4) Sulfur content shall be measured 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. The weighted average sulfur content for each batch shall be calculated by multiplying the volume associated with each representative sample by the sulfur content, adding these values for all the samples, and then dividing that total value by the volume of the batch.

(5) All measurements shall be temperature-adjusted and pressure-adjusted to the conditions assumed for determining the quantities of crude oil reported under this subpart.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 66477, Oct. 28, 2010]

§ 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 batches 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.