

## Environmental Protection Agency

## § 98.81

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<sub>2</sub> 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) 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 the following information:

(1) Annual CO<sub>2</sub> process emissions (metric tons) for each ammonia manufacturing process unit.

(2) Monthly quantity of each type of feedstock consumed for ammonia manufacturing for each ammonia processing unit (scf of feedstock or gallons of feedstock or kg of feedstock).

(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) If a facility uses gaseous feedstock, the carbon content of the gaseous feedstock, for month n, (kg C per kg of feedstock).

(8) If a facility uses gaseous feedstock, the molecular weight of the gaseous feedstock (kg/kg-mole).

(9) If a facility uses gaseous feedstock, the molar volume conversion factor of the gaseous feedstock (scf per kg-mole).

(10) If a facility uses liquid feedstock, the carbon content of the liquid feedstock, for month n, (kg C per gallon of feedstock).

(11) If a facility uses solid feedstock, the carbon content of the solid feedstock, for month n, (kg C per kg of feedstock).

(12) Annual urea production (metric tons) and method used to determine urea production.

(13) CO<sub>2</sub> 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<sub>2</sub> consumed in urea production.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79157, Dec. 17, 2010]

### § 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) and (b) 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<sub>2</sub> 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.

### § 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

**§ 98.82**

**40 CFR Ch. I (7–1–12 Edition)**

the facility meets the requirements of either § 98.2(a)(1) or (2).

**§ 98.82 GHGs to report.**

You must report:

(a) CO<sub>2</sub> process emissions from calcination in each kiln.

(b) CO<sub>2</sub> combustion emissions from each kiln.

(c) CH<sub>4</sub> and N<sub>2</sub>O 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<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O 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<sub>2</sub> 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<sub>2</sub> emissions by operating and maintaining a CEMS to measure CO<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> emissions by operating and maintaining a CEMS to measure CO<sub>2</sub> 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<sub>2</sub> emissions separately using the procedures specified in paragraphs (d)(1) through (d)(4) of this section.

(1) Calculate CO<sub>2</sub> process emissions from all kilns at the facility using Equation H-1 of this section:

$$CO_{2CMF} = \sum_{m=1}^k CO_{2Cli,m} + CO_{2rm} \quad (\text{Eq. H-1})$$

Where:

CO<sub>2CMF</sub> = Annual process emissions of CO<sub>2</sub> from cement manufacturing, metric tons.

CO<sub>2Cli,m</sub> = Total annual emissions of CO<sub>2</sub> from clinker production from kiln m, metric tons.

CO<sub>2rm</sub> = Total annual emissions of CO<sub>2</sub> from raw materials, metric tons.

k = Total number of kilns at a cement manufacturing facility.

(2) CO<sub>2</sub> emissions from clinker production. Calculate CO<sub>2</sub> emissions from each kiln using Equations H-2 through H-5 of this section.

$$CO_{2Cli,m} = \sum_{j=1}^p \left[ (Cli_j) * (EF_{Cli,j}) * \frac{2000}{2205} \right] + \sum_{i=1}^r \left[ (CKD_i) * (EF_{CKD_i}) * \frac{2000}{2205} \right] \quad (\text{Eq. H-2})$$

Where:

Cli<sub>j</sub> = Quantity of clinker produced in month j from kiln m, tons.