

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 N₂O process emissions from each nitric acid production train as required by this subpart.

(b) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of CO₂, CH₄, and N₂O from each stationary combustion unit by following the requirements of subpart C.

§ 98.223 Calculating GHG emissions.

(a) You must determine annual N₂O 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 (h) of this section.

(2) Request Administrator approval for an alternative method of determining N₂O 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 N₂O emissions factor for the current reporting period using the procedures specified in paragraph (a)(1) of this section.

(b) You must conduct an annual performance test according to paragraphs (b)(1) through (b)(3) of this section.

(1) You must measure N₂O emissions from the absorber tail gas vent for each nitric acid train using the methods specified in § 98.224(b) through (d).

(2) You must conduct the performance test under normal process operating conditions and without using N₂O abatement technology (if applicable).

(3) You must measure the production rate during the performance test and calculate the production rate for the test period in metric tons (100 percent acid basis) per hour.

(c) You must determine an N₂O emissions factor to use in Equation V-3 of this section according to paragraphs (c)(1) or (c)(2) of this section.

(1) You may request Administrator approval for an alternative method of determining N₂O concentration according to the procedures in paragraphs (a)(2)(i) and (a)(2)(ii) of this section. Alternative methods include the use of N₂O CEMs.

(2) 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:

$$EF_{N_2O_t} = \frac{\sum_1^n C_{N_2O} * 1.14 \times 10^{-7} * Q}{n \cdot P} \quad (\text{Eq. V-1})$$

Where:

EF_{N₂O_t} = Average site-specific N₂O emissions factor for nitric acid train “t” (lb N₂O generated/ton nitric acid produced, 100 percent acid basis).

C_{N₂O} = N₂O concentration for each test run during the performance test (ppm N₂O).

1.14 × 10⁻⁷ = Conversion factor (lb/dscf-ppm N₂O).

Q = Volumetric flow rate of effluent gas for each test run during the performance test (dscf/hr).