Environmental Protection Agency § 98.224

\[ N_2O = \sum_{i=1}^{m} E_{N2Ot} \] (Eq. V-4)

Where:
- \( N_2O \) = Annual process \( N_2O \) emissions from nitric acid production facility (metric tons).
- \( E_{N2Ot} \) = \( N_2O \) mass emissions per year for nitric acid train \( "t" \) (metric tons).
- \( m \) = Number of nitric acid trains.

(i) You must determine the total annual amount of nitric acid produced on nitric acid train \( "t" \) for each nitric acid train (tons acid produced, 100 percent acid basis), according to § 98.224(f).


§ 98.224 Monitoring and QA/QC requirements.

(a) You must conduct a new performance test according to a test plan as specified in paragraphs (a)(1) through (3) of this section.

(1) Conduct the performance test annually. The test should be conducted at a point during the campaign which is representative of the average emissions rate from the nitric acid campaigns. Facilities must document the methods used to determine the representative point of the campaign when the performance test is conducted.

(2) Conduct the performance test when your nitric acid production process is changed, specifically when abatement equipment is installed.

(3) If you requested Administrator approval for an alternative method of determining \( N_2O \) emissions under § 98.223(a)(2), you must conduct the performance test if your request has not been approved by the Administrator within 150 days of the end of the reporting year in which it was submitted.

(b) You must measure the \( N_2O \) concentration during the performance test using one of the methods in paragraphs (b)(1) through (b)(3) of this section.

(1) EPA Method 320 at 40 CFR part 60, appendices A–1 through A–4. Conduct three emissions test runs of 1 hour each. All QA/QC procedures specified in the reference test methods and any associated performance specifications apply. For each test, the facility must prepare an emission factor determination report that must include the items in paragraphs (d)(1) through (d)(3) of this section.


(3) An equivalent method, with Administrator approval.

(c) You must determine the production rate(s) (100 percent basis) from each nitric acid train during the performance test according to paragraphs (c)(1) or (c)(2) of this section.

(1) Direct measurement of production and concentration (such as using flow meters, weigh scales, for production and concentration measurements).

(2) Existing plant procedures used for accounting purposes (i.e. dedicated tank-level and acid concentration measurements).

(d) You must determine the volumetric flow rate during the performance test in conjunction with the applicable EPA methods in 40 CFR part 60, appendices A–1 through A–4. Conduct three emissions test runs of 1 hour each. All QA/QC procedures specified in the reference test methods and any associated performance specifications apply. For each test, the facility must prepare an emission factor determination report that must include the items in paragraphs (d)(1) through (d)(3) of this section.

(1) Analysis of samples, determination of emissions, and raw data.

(2) All information and data used to derive the emissions factor(s).

(3) The production rate during each test and how it was determined.

(e) You must determine the total monthly amount of nitric acid produced. You must also determine the monthly amount of nitric acid produced while \( N_2O \) abatement technology (located after the test point) is operating from each nitric acid train. These monthly amounts are determined according to the methods in paragraphs (c)(1) or (2) of this section.

(f) You must determine the annual amount of nitric acid produced. You must also determine the annual amount of nitric acid produced while \( N_2O \) abatement technology (located...
after the test point) is operating for each train. These annual amounts are determined by summing the respective monthly nitric acid quantities determined in paragraph (e) of this section.

§ 98.225 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in paragraphs (a) and (b) of this section.

(a) For each missing value of nitric acid production, the substitute data shall be the best available estimate based on all available process data or data used for accounting purposes (such as sales records).

(b) For missing values related to the performance test, including emission factors, production rate, and N\textsubscript{2}O concentration, you must conduct a new performance test according to the procedures in § 98.224 (a) through (d).

§ 98.226 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) through (p) of this section.

(a) Train identification number.

(b) Annual process N\textsubscript{2}O emissions from each nitric acid train (metric tons).

(c) [Reserved]

(d) Annual nitric acid production from each nitric acid train during which N\textsubscript{2}O abatement technology is operating (ton acid produced, 100 percent acid basis).

(e) Annual nitric acid production from the nitric acid facility (tons, 100 percent acid basis).

(f) Number of nitric acid trains.

(g) Number of different N\textsubscript{2}O abatement technologies per nitric acid train "I".

(h) Abatement technologies used (if applicable).

(i) Abatement technology destruction efficiency for each abatement technology (percent destruction).

(j) Abatement utilization factor for each abatement technology (fraction of annual production that abatement technology is operating).

(k) Type of nitric acid process used for each nitric acid train (low, medium, high, or dual pressure).

(l) Number of times in the reporting year that missing data procedures were followed to measure nitric acid production (months).

(m) If you conducted a performance test and calculated a site-specific emissions factor according to § 98.223(a)(1), each annual report must also contain the information specified in paragraphs (m)(1) through (7) of this section.

(1) Emission factor calculated for each nitric acid train (lb N\textsubscript{2}O/ton nitric acid, 100 percent acid basis).

(2) Test method used for performance test.

(3) Production rate per test run during performance test (tons nitric acid produced/hr, 100 percent acid basis).

(4) N\textsubscript{2}O concentration per test run during performance test (ppm N\textsubscript{2}O).

(5) Volumetric flow rate per test run during performance test (dscf/hr).

(6) Number of test runs during performance test.

(7) Number of times in the reporting year that a performance test had to be repeated (number).

(n) If you requested Administrator approval for an alternative method of determining N\textsubscript{2}O emissions under § 98.223(a)(2), each annual report must also contain the information specified in paragraphs (n)(1) through (4) of this section, (n)(1) through (n)(4) of this section for each nitric acid production facility.

(1) Name of alternative method.

(2) Description of alternative method.

(3) Request date.

(4) Approval date.

(p) Fraction control factor for each abatement technology (percent of total emissions from the production unit that are sent to the abatement technology) if equation V–3c is used.