

Nitric Acid Production



Final Rule: Mandatory Reporting of Greenhouse Gases

Under the Greenhouse Gas Reporting Program, owners or operators of facilities that produce nitric acid (as defined below) must report emissions from nitric acid production processes and all other source categories located at the facility for which methods are defined in the rule. Owners or operators are required to collect emission data; calculate GHG emissions; and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting.

How Is This Source Category Defined?

The nitric acid production source category consists of facilities that use one or more trains to produce weak nitric acid (30 to 70 percent in strength) through the catalytic oxidation of ammonia.

What GHGs Must Be Reported?

Nitric acid production facilities must report the following emissions:

- Nitrous oxide (N₂O) process emissions from each nitric acid train.
- Carbon dioxide (CO₂), N₂O, and methane (CH₄) emissions from each stationary fuel combustion unit under 40 CFR part 98, subpart C (General Stationary Fuel Combustion Sources).

In addition, each facility must report GHG emissions for other source categories for which calculation methods are provided in the rule, as applicable. Please refer to the relevant information sheet for a summary of the rule requirements for calculating and reporting emissions from any other source categories located at your facility.

How Must GHG Emissions Be Calculated?

Calculate N₂O emissions for each nitric acid train using one of the following two options:

- Calculate N₂O process emissions by multiplying the site-specific emission factor for each nitric acid train by the measured annual nitric acid production for that train. To determine the site-specific emission factor for each nitric acid train:
 - Perform an annual performance test to measure the N₂O emission rate from the absorber tail gas vent.
 - Adjust the N₂O emissions to account for the amount of N₂O removed by the abatement device (e.g., nonselective catalytic reduction), if applicable.
 - Calculate the site-specific emission factor using the N₂O emission rate and the nitric acid production rate measured during the performance test.
- Directly measure N₂O emissions using an EPA-approved alternative method to the site-specific emission factor. Any alternative must be approved by the Administrator before being used.

A checklist for data that must be monitored is available at:

www.epa.gov/ghgreporting/documents/pdf/checklists/nitricacidproduction.pdf

When Must Reports be Submitted?

The submission date for the annual GHG report can vary in the first 3 years of the program.

- Reporting Year 2010. The report was required to be submitted by September 30, 2011.
- Reporting Year 2011. The due date depends on which source categories are included in the report. If the report includes one or more of the source categories listed below, then the report must be submitted by September 28, 2012. This reporting deadline applies to all subparts being reported by the facility. In addition, if the facility contains one or more of these source categories and the facility submitted a GHG annual report for reporting year 2010 under another subpart (e.g., subpart C for general stationary fuel combustion), then by April 2, 2012 you must notify EPA through e-GGRT that you are not required to submit the second annual report until September 28, 2012 (the notification deadline according to 4 CFR 98.3(b) is March 31, 2012, however, because this date falls on a Saturday in 2012, the notification is due on the next business day).
 - Electronics Manufacturing (subpart I)
 - Fluorinated Gas Production (subpart L)
 - Magnesium Production (subpart T)
 - Petroleum and Natural Gas Systems (subpart W)
 - Use of Electric Transmission and Distribution Equipment (subpart DD)
 - Underground Coal Mines (subpart FF)
 - Industrial Wastewater Treatment (subpart II)
 - Geologic Sequestration of Carbon Dioxide (subpart RR)
 - Manufacture of Electric Transmission and Distribution (subpart SS)
 - Industrial Waste Landfills (subpart TT)
 - Injection of Carbon Dioxide (subpart UU)
 - Imports and Exports of Equipment Pre-charged with Fluorinated GHGs or Containing Fluorinated GHGs in Closed-cell Foams (subpart QQ)

If the report contains none of the source categories listed above, then the report must be submitted by April 2, 2012 (the deadline is March 31, 2012, however, because this date falls on a Saturday, the annual report is due on the next business day).

- Reporting Year 2012. Starting in 2013 and each year thereafter, the report must be submitted by March 31 of each year, unless the 31st is a Saturday, Sunday, or federal holiday, in which case the reports are due on the next business day.

What Information Must Be Reported?

In addition to the information required by the General Provisions at 40 CFR 98.3(c), each nitric acid production train must report the following information:

- Train identification number.
- Annual process N₂O emissions from each nitric acid train (metric tons).
- Annual process N₂O emissions combined from all nitric acid trains at the facility (metric tons).

- Annual nitric acid production from each nitric acid train (tons, 100 percent acid basis).
- Annual nitric acid production from each nitric acid train during which N₂O abatement technology is operating (tons, 100 percent acid basis).
- Annual nitric acid production from the nitric acid facility (tons, 100 percent acid basis).
- Number of nitric acid trains.
- Number of different abatement technologies per train (if applicable).
- Types of abatement technologies used (if applicable).
- Abatement technology destruction efficiency for each abatement technology (percent).
- Abatement utilization factor for each abatement technology (fraction of annual production that abatement technology is operating).
- Type of nitric acid process used for each nitric acid train (low, medium, or dual pressure).
- Number of times in the reporting year that missing data procedures were followed to measure nitric acid production (months).
- If a performance test was conducted, report the following:
 - Emission factor calculated for each nitric acid train (lb N₂O/ton nitric acid, 100 percent acid basis).
 - Method used for the performance test.
 - Production rate per test run during performance test (tons nitric acid produced/hour, 100 percent acid basis).
 - N₂O concentration per test run during the performance test (parts per million N₂O).
 - Volumetric flow rate during performance test (dry standard cubic feet/hour).
 - Number of test runs during performance test.
 - Number of times in the reporting year that a performance test had to be repeated.
- If approval for an alternative method for determining N₂O process emissions was received, each annual report must include the following:
 - Name of alternative method.
 - Description of alternative method.
 - Date the request was submitted.
 - Date the alternative method was approved.

EPA has temporarily deferred the requirement to report data elements in the above list that are used as inputs to emission equations (76 FR 53057, August 25, 2011). For the current status of reporting requirements, including the list of data elements that are considered to be inputs to emissions equations, consult the following link: <http://www.epa.gov/ghgreporting/reporters/cbi/index.html>

For More Information

This document is provided solely for informational purposes. It does not provide legal advice, have legally binding effect, or expressly or implicitly create, expand, or limit any legal rights, obligations, responsibilities, expectations, or benefits in regard to any person. The series of information sheets is intended to assist reporting facilities/owners in understanding key provisions of the final rule.

Visit EPA's Web site (www.epa.gov/ghgreporting/reporters/index.html) for more information, including the final preamble and rule, additional information sheets on specific industries, the schedule for training sessions, and other documents and tools. For questions that cannot be answered through the Web site, please contact us at: GHGReporting@epa.gov.