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Subpart N - Glass Production

 A printer-friendly version (pdf) (15 pp, 3,367K) of GHG reporting instructions for this subpart

Please select a help topic from the list below:

- [Using e-GGRT to Prepare Your Subpart N Report](#)
 - [Subpart N Summary Information for this Facility](#)
 - [Subpart N Furnace Information](#)
 - [Subpart N Emissions Information for Furnaces NOT Monitored by CEMS](#)
 - [Subpart N Emissions Information for Furnaces Monitored by CEMS](#)
- [Using Subpart N Calculation Spreadsheets](#)
- [Carry forward of data from previous submissions into RY2011 forms](#)
- [Subpart N Rule Guidance](#)
- [Subpart N Rule Language \(eCFR\)](#)

Additional Resources:

- [Part 98 Terms and Definitions](#)
- [Frequently Asked Questions \(FAQs\)](#)
- [Webinar Slides](#)

Using e-GGRT to Prepare Your Subpart N Report

This page provides an overview of subtopics that are central to Subpart N reporting. This information will be entered from the e-GGRT Subpart N Overview web form shown below. Each topic represents a key web form where you need to enter information:

- [Subpart N Summary Information for this Facility](#)
- [Subpart N Furnace Information](#)
- [Subpart N Emissions Information](#)
- [Subpart N Validation Report](#)

If you previously reported for Reporting Year (RY) 2010, the Agency has carried some of your RY2010 data forward and entered it in your RY2011 forms to reduce reporting burden. It is still your responsibility to review and assure that all the information in your submission is correct, but the Agency believes that most of the data which is carried forward is unlikely to change significantly from year to year. For more information about carry forward data, please see the [Carry forward of data from previous submissions into RY2011 forms help content](#).

The end of this overview page provides links for more detailed information and instructions on entering required information related to each of these topics.

Subpart N Summary Information for this Facility

Subpart N requires you to report the following data about your facility:

- The total number of continuous furnaces in your facility used to produce glass
- The total annual quantity (short tons) of glass produced across all continuous glass melting furnaces in your facility

E-GGRT WILL calculate these two values based on information you entered for individual furnaces. So, again, you do not need to complete this field; e-GGRT will automatically populate these fields as you complete other forms. Just be sure to check the value before you submit your Subpart N report.

Subpart N also requires you to report:

- The total annual quantity (short tons) charged across all continuous glass melting furnaces of the following carbonate-based raw materials. Enter "0" for those carbonates not consumed or used in producing glass at your facility for the reporting year:
 - Limestone
 - Dolomite
 - Sodium carbonate
 - Barium carbonate
 - Strontium carbonate
 - Lithium carbonate
 - Potassium carbonate

Subpart N Furnace Information

For each furnace at your facility, Subpart N requires you to report the following information:

- A unique name or identifier, plus optional description for this furnace (see also [About Unique Unit Names](#))
- The total annual quantity (in short tons) of glass produced by this furnace
- An indication of which of the carbonate-based raw materials (limestone, dolomite, sodium carbonate, barium carbonate, strontium carbonate, lithium carbonate, and potassium carbonate) are charged to this furnace

Subpart N Emissions Information

The required emissions information and the forms associated with entering the required emissions information are different for units that are monitored by a Continuous Emissions Monitoring System (CEMS) and units that are NOT monitored by a CEMS.

As a result, the help content for entering emissions information for units monitored by CEMS is different than the help content for units NOT monitored by CEMS.

For each glass melting furnace that is NOT monitored by CEMS at your facility, the following information is required:

- The CO₂ process emissions (metric tons).



Note combustion CO₂ emissions should be reported under [Subpart C](#).

- For each raw material charged to each continuous glass melting furnace:
 - The number of months during the reporting year that missing data procedures were followed to estimate monthly quantities for the raw material
 - The method you used to determine the fraction of calcination for the raw material (Default Value of 1.0, Chemical analysis using x-ray fluorescence, or Other)
 - The number of months during the reporting year that missing data procedures were followed to estimate mass fractions for the raw material
- For each test conducted to verify the mass fraction, report:
 - The test date. If you choose to use the default value (i.e., 1.0) as an alternative to supplier data as explained in 98.143(c) enter any date (e.g. Dec. 1, 2010).
 - The method(s) and any variations used in the analyses. Please review the methods allowed under the rule in 98.144(b). If you choose to use the default as an alternative to supplier data as explained in 98.143(c) enter “*Default Method per 98.143(c)*” for method.
 - The average mass fraction values for all test samples recorded during the test. If you choose to use the default as an alternative to supplier data as explained in 98.143(c) enter “*Default Method per 98.143(c)*” for method and enter 1.0 for mass fraction of sample.

For each process unit that is monitored by CEMS at your facility, the following emissions information is required:

- The annual quantity of each carbonate-based raw material charged into the glass melting furnace (short tons)

For each CEMS Monitoring Location, provide the following information:

- A unique unit name or identifier for the CML (see also [About Unique Unit Names](#))
- An optional description or label for the CML
- The configuration of processes or process units that are monitored by the CML:
 - Single process or process unit that exhausts to a dedicated stack
 - Multiple processes or process units that share a common stack
 - Process or process unit that shares a common stack with one or more stationary fuel combustion units
- The name of each fuel combusted in the unit(s) monitored by the CEMS
- The Tier 4/CEMS methodology start and end dates
- The cumulative total of hourly CO₂ mass emissions for each quarter of the reporting year (metric tons) (*Do not cumulate emissions data between quarters*)
- The total annual CO₂ mass emissions measured by the CEMS (metric tons)
- An indication whether emissions reported for the CEMS include emissions calculated according to 98.33(a)(4)(viii) for a slipstream that bypassed the CEMS
- The total annual biogenic CO₂ emissions from the combustion of all biomass fuels combined (metric tons) (*if not applicable, enter '0'*)
- The total annual non-biogenic CO₂ emissions which includes fossil fuel, sorbent, and process CO₂ emissions (metric tons)
- The total annual CH₄ and N₂O emissions associated with the combustion of all [Table C-2](#) fuels combusted in all processes/process units monitored by the CEMS derived from application of [Equation C-10](#) (metric tons) (*if there are no combustion emissions in this CML, please enter '0'*)
- The total number of source operating hours in the reporting year
- The total operating hours in which a substitute data value was used in the emissions calculations for the CO₂ concentration parameter
- The total operating hours in which a substitute data value was used in the emissions calculations for the stack gas flow rate parameter
- If moisture correction is required and a continuous moisture monitor is used, the total operating hours in which a substitute data value was used in the emissions calculations for the stack gas moisture content parameter

- An indication of the process units monitored by the CML

Subpart N Validation Report

You can use the Validation Report to assist with the completeness and quality of your reporting data.

You should use the Validation Report to check your work. The Validation Report performs two types of checks:

- Data Completeness: Data that are required for reporting are missing or incomplete.
- Data Quality: Data are outside of the expected range of values.

You may view the Validation Report at any time.



Note that the Validation Report is intended to assist users in entering data, but it is not an indication that the reporter has entered all necessary information, nor is it an indication that the reporter is in compliance with part 98. Furthermore a negative finding on the validation report is not a guarantee that a data element was entered incorrectly.

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See Also

[Screen Errors](#)

[Subpart N Summary Information for this Facility](#)

[Subpart N Furnace Information](#)

[Subpart N Emissions Information for Furnaces NOT Monitored by CEMS](#)

[Subpart N Emissions Information for Furnaces Monitored by CEMS](#)

[Subpart Validation Report](#)

Subpart N Summary Information for this Facility

This page provides a description of how to enter Subpart N Glass Production summary information about this facility.

Adding or Updating Summary Information for this Facility

To add or update summary information for this facility, locate the SUBPART N SUMMARY INFORMATION FOR THIS FACILITY table on the Subpart Overview page and click OPEN. While this information can be entered at any point, we recommend that you complete this form last after entering other required information.

Click image to expand

The screenshot shows the EPA e-GGRT interface for 'ABC Petroleum' under 'Subpart N: Glass Production (2011)'. It features a navigation bar with 'HOME', 'FACILITY REGISTRATION', 'FACILITY MANAGEMENT', and 'DATA REPORTING'. The main content area includes an 'OVERVIEW OF SUBPART REPORTING REQUIREMENTS' section, a 'SUBPART N SUMMARY INFORMATION FOR THIS FACILITY' table with columns for 'Number of furnaces' and 'Total annual quantity of glass produced (tons)', and two 'GLASS MELTING FURNACE SUMMARY' tables (one for CEMS-monitored and one for non-monitored). A 'Subpart N: View Validation' button is also visible. The footer contains 'Paperwork Reduction Act Burden Statement | Contact Us' and 'e-GGRT FY2011 R.12 | N.1'.

Subpart N requires you to report the following data about your facility:

- The total number of continuous furnaces in your facility used to produce glass
- The total annual quantity (short tons) of glass produced across all continuous glass melting furnaces in your facility

E-GGRT WILL calculate these two values based on information you entered for individual furnaces. So, again, you do not need to complete this field; e-GGRT will automatically populate these fields as you complete other forms. Just be sure to check the value before you submit your Subpart N report.

Subpart N also requires you to report:

- The total annual quantity (short tons) charged across all continuous glass melting furnaces of the following carbonate-based raw materials. Enter "0" for those carbonates not consumed or used in producing glass at your facility for the reporting year:
 - Limestone
 - Dolomite
 - Sodium carbonate
 - Barium carbonate
 - Strontium carbonate
 - Lithium carbonate
 - Potassium carbonate

These values must be entered into e-GGRT.

When you have entered the required information, click SAVE. You should then return to the Subpart N Overview page.

Click image to expand

The screenshot shows the e-GGRT web application interface. At the top, there are navigation tabs: HOME, FACILITY REGISTRATION, FACILITY MANAGEMENT, and DATA REPORTING. The main content area is titled "Subpart N: Glass Production" and includes a "Subpart N SUMMARY INFORMATION FOR THIS FACILITY" section. This section contains two input fields: "Number of furnaces" and "Annual quantity of glass produced across all furnaces", both with a value of 0. Below this is a section for "ANNUAL QUANTITY OF CARBONATE-BASED RAWMATERIALS CHARGED ACROSS ALL FURNACES" with input fields for Limestone, Dolomite, Sodium Carbonate, Barium Carbonate, Strontium Carbonate, Lithium Carbonate, and Potassium Carbonate, all with a value of 0. At the bottom of the form are "CANCEL" and "SAVE" buttons. The footer includes "Paperwork Reduction Act Burden Statement | Contact Us" and "e-GGRT RV2010.R.44 | N-Facility".

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See Also

[Screen Errors](#)

[Using e-GGRT to Prepare Your Subpart N Report](#)

[Subpart N Furnace Information](#)

[Subpart N Emissions Information for Furnaces NOT Monitored by CEMS](#)

[Subpart N Emissions Information for Furnaces Monitored by CEMS](#)

[Subpart Validation Report](#)

Subpart N Furnace Information

This page provides step-by-step instructions on how to enter and edit Subpart N Glass Production furnace information.

Step 1: Add a furnace

To add a continuous glass melting furnace that is NOT monitored by a CEMS, find the GLASS MELTING FURNACE SUMMARY table on the Subpart Overview page and click the link titled "ADD a Furnace."

To add a furnace that is monitored by a CEMS, find the GLASS MELTING FURNACE SUMMARY (Furnaces Monitored by CEMS) table on the Subpart Overview page and click the link titled "ADD a Furnace Monitored by CEMS."

To edit information you have entered to identify a furnace, click the edit icon or the Name/ID link located in the first column of the table.

To delete a furnace, click the delete icon or red "x" icon located in the last column of the table.

Click image to expand

United States Environmental Protection Agency | e-GGRT Electronic Greenhouse Gas Reporting Tool

HOME | FACILITY REGISTRATION | FACILITY MANAGEMENT | DATA REPORTING

ABC Petroleum
Subpart N: Glass Production (2011)
Subpart Overview

OVERVIEW OF SUBPART REPORTING REQUIREMENTS
Subpart N requires affected facilities to report carbon dioxide(CO₂) process emissions from each continuous glass melting furnace. First, use this page to identify each continuous glass melting furnace and then enter Greenhouse gas (GHG) data required by Subpart N for each continuous glass melting furnace and for your facility. For additional information about Subpart N reporting, please use the e-GGRT Help link(s) provided.

EPA has finalized a rule that defers the deadline for reporting data elements used as inputs to emission equations for direct emitters. See 76 FR 5057 (published August 25, 2011). In accordance with the rule, e-GGRT is not currently collecting data used as inputs to emission equations.

Subpart N: View Validation

SUBPART N SUMMARY INFORMATION FOR THIS FACILITY

Number of furnaces	Total annual quantity of glass produced(tons)

GLASS MELTING FURNACE SUMMARY

Name/ID	Raw Materials	CO ₂ (metric tons)	Status	Delete
No units have been added				

GLASS MELTING FURNACE SUMMARY (Furnaces monitored by CEMS)

Name/ID	Raw Materials	Status	Delete
No units have been added			

A status of "Incomplete" means that one or more required data elements are incomplete. For details, refer to the Data Completeness validation messages in your Validation Report by clicking the "View Validation" link above (Note: if there are no validation messages for this subpart you will not see this link).

Step 2: Indicate CEMS utilization for a furnace

For each furnace, confirm whether or not the continuous furnace utilizes CEMS.

Note that when adding a new furnace you are prompted to answer the CEMS question immediately (the answer to this question will default to "No" for furnaces added using the "ADD a Furnace" link and will default to "Yes" for units added using the "ADD a Furnace Monitored by CEMS" link).

The CEMS response may be changed here and the furnace information will be relocated to the appropriate table on the Subpart Overview page.

When finished, click SAVE. You will then proceed to the "Raw Materials and Glass Produced" web form.

Click image to expand

United States Environmental Protection Agency | e-GGRT Electronic Greenhouse Gas Reporting Tool

HOME | FACILITY REGISTRATION | FACILITY MANAGEMENT | DATA REPORTING

Glass Production Company 1 (2010)
Subpart N: Glass Production
Subpart Overview • New Unit • Cems/NoCems

CONTINUOUS EMISSIONS MONITORING SYSTEMS (CEMS)
Please indicate whether or not the emissions for this continuous glass melting furnace are measured by a CEMS. For additional information about reporting CEMS emissions, please use the e-GGRT Help link(s) provided. * denotes a required field

CONTINUOUS EMISSIONS MONITORING

In this unit's emissions monitored using a CEMS? Yes No

CANCEL SAVE

Step 3: Enter required information on Raw Materials used and Glass Produced for a furnace

For each continuous glass melting furnace at your facility, Subpart N requires you to report the following information:

- A unique name or identifier, plus optional description for this furnace (see also [About Unique Unit Names](#))
- The total annual quantity (short tons) of glass produced by this furnace
- An indication of which of the carbonate-based raw materials (limestone, dolomite, sodium carbonate, barium carbonate, strontium carbonate, lithium carbonate, potassium carbonate, or other) are charged to this furnace

When finished, click SAVE. You will then return to the Subpart Overview form and see the furnace you identified listed under either the GLASS Melting Furnace Summary table or the Glass Melting Furnace Summary (Furnaces Monitored by CEMS) table, depending on the monitoring information.

Click image to expand

Step 4: Repeat Steps 1-3

Repeat Steps 1-3 until all furnaces have been added for your facility. You now have completed entering furnace information, but still need to enter emissions information for each continuous glass melting furnace. Depending on the monitoring method, see the links below to find more detailed instructions on entering emissions information for each continuous furnace.

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See Also

[Screen Errors](#)

[Using e-GGRT to Prepare Your Subpart N Report](#)

[Subpart N Summary Information for this Facility](#)

[Subpart N Emissions Information for Furnaces NOT Monitored by CEMS](#)

[Subpart N Emissions Information for Furnaces Monitored by CEMS](#)

[Subpart Validation Report](#)

Subpart N Emissions Information for Furnaces NOT Monitored by CEMS

This page provides step-by-step instructions on how to enter and edit Subpart N Glass Production emissions information for furnaces that are NOT monitored by a Continuous Emissions Monitoring System (CEMS).



Note: Subpart N is for reporting process related CO₂ emissions, combustion CO₂ emissions should be reported under [Subpart C](#).

Step 1: Select a furnace

To select a furnace for which to enter emissions data, find the unit in the GLASS MELTING FURNACE SUMMARY table and click OPEN. You will then be on the Eq. N-1 form.

Click image to expand

Step 2: Equation Summary and Result

For each glass melting furnace NOT monitored by CEMS, enter the CO₂ process emissions in metric tons. Be sure to check the units. This number is the output of Equation N-1.

For assistance in calculating CO₂ process emissions for a furnace using Eq. N-1, access the calculation spreadsheet for this subpart by clicking the link located below the red emissions data entry box titled "Use Subpart N equation spreadsheets to calculate," then follow the provided instructions.

Click image to expand

Step 3: Raw Material Data

For each raw material charged to each glass melting furnace, provide the following:

- The number of months during the reporting year that you followed missing data procedures for the *monthly quantities* of the raw material
- The method you used to determine the fraction of calcination for the raw material (Default Value (1.0), Chemical analysis using x-ray fluorescence, or Other)
- The number of months during the reporting year that you followed missing data procedures for the *mass fractions* of the raw material

Step 4: Mass Fraction Verification Test Data

For each mass fraction verification test conducted for each raw material, provide the following:

- The test date.
- The method(s) and any variations used in the analyses. Please review 98.143(c) and 98.144(b) for applicable methods. *If you chose to use the default value of 1.0 as an alternative to supplier data (option in 98.143(c)), in the TEST DETAILS section enter "Default Method*

per 98.143(c)” for “Methods and any variation used in the analysis.” The average mass fraction values for all test samples recorded during the test (mass fraction should be expressed as a decimal value from 0.0 to 1.0). If you chose to use the default as an alternative to supplier data, enter 1.0 in the TEST SAMPLE(S) section, consistent with the default value provided in 98.143(c) for “Mass fraction of sample”.

To add mass fraction verification tests for a raw material, click "Add A Test" and enter the required information.

When you have finished entering tests, click SAVE.

Click image to expand

Step 5: Save emissions and raw material data for a furnace

When you have finished entering emissions and raw material data, click SAVE. You will then return to the Subpart Overview page and you should see the status of data entry for the furnace change to “Complete” in the Status column in the GLASS MELTING FURNACE SUMMARY table.

If you do not have all the data it will remain incomplete. You can always enter some now, save it, then finish it later.

After you save the data on this page, the next time you open the page, the calculator on the top of the page will display the CO₂ process emissions for a furnace, rounded to the nearest 0.1 of a metric ton. The value displayed is for informational purposes only.

Click image to expand

Step 6: Repeat Steps 1-5

Repeat Steps 1-5 until emissions data have been entered for all furnaces NOT monitored by CEMS.

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See Also

Screen Errors

Using e-GGRT to Prepare Your Subpart N Report

Subpart N Summary Information for this Facility

Subpart N Furnace Information

Subpart N Emissions Information for Furnaces Monitored by CEMS

Subpart Validation Report

Subpart N Emissions Information for Furnaces Monitored by CEMS

This page provides step-by-step instructions on how to enter and edit Subpart N Glass Production emissions information for glass melting furnaces that are monitored by a Continuous Emissions Monitoring System (CEMS). Once you have identified furnaces that are monitored by CEMS, you will see that the Subpart Overview page has a new table at the bottom of the page titled "CEMS MONITORING LOCATION (CML) SUMMARY." The following instructions focus on entering information to complete this SUMMARY table.

Step 1: Add a CEMS Monitoring Location (CML)

To add a CML, click the "Add a CEMS Monitoring Location" link below the CEMS MONITORING LOCATION (CML) SUMMARY table on the Subpart Overview page



The screenshot below is from Subpart G and is displayed as an example. The screen for other subparts may differ slightly.

Click image to expand

Step 2: Define a CML and report emissions information

For each CEMS Monitoring Location, provide the following information:

- A unique unit name or identifier for the CML (see also [About Unique Unit Names](#))
- An optional description or label for the CML
- The configuration of processes or process units that are monitored by the CML:
 - Single process or process unit that exhausts to a dedicated stack
 - Multiple processes or process units that share a common stack
 - Process or process unit that shares a common stack with one or more stationary fuel combustion units
- The types of fuel combusted in the unit(s) monitored by the CEMS
- The Tier 4/CEMS methodology start and end dates
- The cumulative total of hourly CO₂ mass emissions for each quarter of the reporting year (metric tons) (*Do not cumulate emissions data between quarters*)
- The total annual CO₂ mass emissions measured by the CEMS (metric tons)
- An indication whether emissions reported for the CEMS include emissions calculated according to 98.33(a)(4)(viii) for a slipstream that bypassed the CEMS
- The total annual biogenic CO₂ emissions from the combustion of all biomass fuels combined (metric tons) (*if not applicable, enter '0'*)
- The total annual non-biogenic CO₂ emissions which includes fossil fuel, sorbent, and process CO₂ emissions (metric tons)
- The total annual CH₄ and N₂O emissions associated with the combustion of all [Table C-2](#) fuels combusted in all processes/process units monitored by the CEMS derived from application of [Equation C-10](#) (metric tons) (*if there are no combustion emissions in this CML,*

please enter '0')

- The total number of source operating hours in the reporting year
- The total operating hours in which a substitute data value was used in the emissions calculations for the CO₂ concentration parameter
- The total operating hours in which a substitute data value was used in the emissions calculations for the stack gas flow rate parameter
- If moisture correction is required and a continuous moisture monitor is used, the total operating hours in which a substitute data value was used in the emissions calculations for the stack gas moisture content parameter
- The total annual CO₂ emissions from the CEMS Monitoring Location (CML) Summary attributable to combustion (metric tons)

Do not leave any of these fields blank. If, for example, your facility has no biogenic CO₂ emissions, enter '0'.

For assistance in calculating annual CH₄ and N₂O emissions using [Equation C-10](#), access the optional calculation spreadsheet by clicking one of the links titled “[Use Equation C-10 spreadsheet to calculate](#)” located below each of the red emissions information data entry boxes and follow the provided instructions

Step 3: Identify process units monitored at a CML

To identify the process units monitored at a CML, first click the link titled “ADD/REMOVE a process unit that exhausts to this CEMS Monitoring Location” at the bottom of the page



The screenshot below is from Subpart G and is displayed as an example. The screen for other subparts may differ slightly.

Click image to expand

Facility ABC (2010)
Subpart G: Ammonia Manufacturing
 Subpart G Overview • [Add/Edit CEMS Monitoring Location](#)

CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) MONITORING LOCATION (CML) INFORMATION
 Use this page to uniquely identify each CEMS Monitoring Location (CML) Summary and provide the annual OHS emissions and other information described below. Use the "ADD/REMOVE" "Process Unit" link at the bottom of the page to identify the process unit(s) monitored by this CEMS Monitoring Location (CML) Summary. For additional information about the data collected on this page, please use the e-GGRT Help link(s) provided.

CONFIGURATION
 CEMS Monitoring Location Name ID: (40 characters maximum)
 Description (optional):
 Configuration Type: Select
 Types of fuel combusted in the unit(s) monitored by the CEMS: (200 characters maximum)

TIER 4 METHODOLOGY INFORMATION
 Calculation Methodology: 01/01/2010
 Start Date: 01/01/2010
 Calculation Methodology: 12/31/2010
 End Date: 12/31/2010

CUMULATIVE CO₂ EMISSIONS
 Quarter 1: (metric tons)
 Quarter 2: (metric tons)
 Quarter 3: (metric tons)
 Quarter 4: (metric tons)

ANNUAL CO₂ EMISSIONS
 Total annual CO₂ mass emissions (biogenic and non-biogenic) measured by the CEMS: (metric tons)
 Check this box to indicate that the emissions reported for the CEMS include emissions calculated according to 98.33(a)(4)(ii) for a slipstream that bypassed the CEMS:
 Total annual biogenic CO₂ mass emissions: (metric tons)
 Total annual non-biogenic CO₂ mass emissions (includes fossil fuel, solvent, and process CO₂ emissions): (metric tons)

EQUATION C-10 SUMMARY AND RESULTS
 $CH_4 \text{ or } N_2O = 0.001 \times (H)_a \times EF$
 Hover over an element in the equation above to reveal a definition of that element.
 Enter CH₄ and N₂O emissions from only combustion of Table C-2 Fuels directly below. If there are no combustion emissions from Table C-2 Fuels in this CEMS Monitoring Location, please enter 0.
 Total CH₄ emissions: (metric tons)
 Total N₂O emissions: (metric tons)

ADDITIONAL EMISSIONS INFORMATION
 Total number of source operating hours in the reporting year: (hours)
 The total operating hours in which a substitute data value was used in the emissions calculations for CO₂ concentration: (hours)
 The total operating hours in which a substitute data value was used in the emissions calculations for stack gas flow rate: (hours)
 The total operating hours in which a substitute data value was used in the emissions calculations for stack gas moisture content (if moisture correction is required and a continuous moisture monitor is used): (hours)

CEMS MONITORING LOCATION PROCESS UNITS
 Process Unit Name/Identifier:
 There are no process units monitored by CEMS available for selection.
 ADD/REMOVE/EDIT a process unit that exhausts to this CEMS Monitoring Location

On the CML Process Units Selection page, use the check boxes to select the process unit(s) monitored at this CML. This will indicate that the unit(s) selected vent emission through the stack monitored by this CML.



The screenshot below is from Subpart G and is displayed as an example. The screen for other will differ slightly depending on the number of units with emissions monitored by a single CML at your facility.

Click image to expand

SUBG 4 (2010)
Subpart G: Ammonia Manufacturing
 Subpart G Overview • [Buster Ammonia](#) • [Add/Edit Process Units](#)

IDENTIFY PROCESS UNIT(S)
 Use this page to select each process unit that is monitored by the CML. For additional information about this page, please use the e-GGRT Help link(s) provided. * denotes a required field

PROCESS UNIT: GASEOUS CEMS
 Is this process unit monitored by the CEMS Monitoring Location? (check if true)

Subpart Y also collects the CO₂ emissions from this CEMS Monitoring Location that are attributable to process CO₂ emissions from this process unit (metric tons).

Click image to expand

The screenshot shows the EPA e-GGRT interface for adding or editing process units. The page title is 'Facility ABC (2010) Subpart Y: Petroleum Refineries'. A navigation bar at the top includes 'HOME', 'FACILITY REGISTRATION', 'FACILITY MANAGEMENT', and 'DATA REPORTING'. The main content area has a heading 'IDENTIFY PROCESS UNITS(S)' and a sub-heading 'Use this page to select each process unit that is monitored by the CEMS Monitoring Location (CML) Summary. For additional information about this page, please use the e-GGRT Help link(s) provided.' Below this, there are three sections for process units: CEMS1, CEMS3, and CEMS2. Each section has a checkbox for 'Is this process unit monitored by the CEMS Monitoring Location?' and a text input field for 'CO₂ emissions from this CEMS Monitoring Location that are attributable to process CO₂ emissions from this process unit'. The values entered are 8000 for CEMS1 and 7100 for CEMS3. At the bottom of the form are 'CANCEL' and 'SAVE' buttons.

When finished selecting process unit for the CML and entering additional required information (if applicable), click SAVE. You should then be directed back to the Add/Edit a CML Location form and see the units you selected listed in the CEMS MONITORING LOCATION (CML) PROCESS UNITS table.

Step 4: Save entered data for a CML

When you have finished entering data for a CML, click SAVE. You will then return to the Subpart Overview page. You will see the status of data entry for the CML updated to "Complete" in the Status column in the CEMS MONITORING LOCATION (CML) SUMMARY table.

If you don't have all the data, you can enter some now, save it, and finish later by clicking on the hyperlinked name of the CML in the CEMS MONITORING LOCATION (CML) SUMMARY table.

After you save the data on this page, the next time you open the page, the calculator on the top of the page will display the CO₂ process emissions for the CML, rounded to the nearest 0.1 of a metric ton. The value displayed is for informational purposes only.



Note: the screenshot below is from Subpart G and is displayed as an example. The screen for other subparts will differ slightly.

Click image to expand

Facility ABC (2010)
Subpart G: Ammonia Manufacturing
 Subpart G Overview • [Add/Edit CEMS Monitoring Location](#)

CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) MONITORING LOCATION (CML) INFORMATION
 Use this page to uniquely identify each CEMS Monitoring Location (CML) Summary and provide the annual O&G emissions and other information described below. Use the "ADD/REMOVE a Process Unit" link at the bottom of the page to identify the process unit(s) monitored by this CEMS Monitoring Location (CML) Summary. For additional information about the data collected on this page, please use the e-GGRT Help link(s) provided.

CONFIGURATION
 CEMS Monitoring Location Name ID: _____ (40 characters maximum)
 Description (optional): _____
 Configuration Type: Select
 Types of fuel combusted in the unit(s) monitored by the CEMS: _____ (200 characters maximum)

TIER 4 METHODOLOGY INFORMATION
 Calculation Methodology: 01/01/2010
 Start Date: 01/01/2010
 Calculation Methodology: 12/31/2010
 End Date: 12/31/2010

CUMULATIVE CO₂ EMISSIONS
 Quarter 1: _____ (metric tons)
 Quarter 2: _____ (metric tons)
 Quarter 3: _____ (metric tons)
 Quarter 4: _____ (metric tons)

ANNUAL CO₂ EMISSIONS
 Total annual CO₂ mass emissions (biogenic and non-biogenic) measured by the CEMS: _____ (metric tons)
 Check this box to indicate that the emissions reported for the CEMS include emissions calculated according to 98.33(a)(1)(ii) for a slipstream that bypassed the CEMS:
 Total annual biogenic CO₂ mass emissions: _____ (metric tons)
 Total annual non-biogenic CO₂ mass emissions (includes fossil fuel, solvent, and process CO₂ emissions): _____ (metric tons)

EQUATION C-10 SUMMARY AND RESULTS
 $CH_4 \text{ or } N_2O = 0.001 \times (H)_a \times EF$
 Hover over an element in the equation above to reveal a definition of that element.
 Enter CH₄ and N₂O emissions from only combustion of Table C-2 Fuels directly below. If there are no combustion emissions from Table C-2 Fuels in this CEMS Monitoring Location, please enter 0.
 Total CH₄ emissions: _____ (metric tons)
 Total N₂O emissions: _____ (metric tons)

ADDITIONAL EMISSIONS INFORMATION
 Total number of source operating hours in the reporting year: _____ (hours)
 The total operating hours in which a substitute data value was used in the emissions calculations for CO₂ concentration: _____ (hours)
 The total operating hours in which a substitute data value was used in the emissions calculations for stack gas flow rate: _____ (hours)
 The total operating hours in which a substitute data value was used in the emissions calculations for stack gas moisture content (if moisture correction is required and a continuous moisture monitor is used): _____ (hours)

CEMS MONITORING LOCATION PROCESS UNITS
 Process Unit Name/Identifier: _____
 There are no process units monitored by CEMS available for selection.
 ADD/REMOVE/EDIT a process unit that exhausts to this CEMS Monitoring Location

Buttons: CANCEL SAVE

Step 5: Repeat Steps 1-4

Repeat Steps 1-4 until emissions information has been entered for all CMLs. If you have missed something, the validation report messages will help you identify any incomplete entries.

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See Also

[Screen Errors](#)

[Using e-GGRT to Prepare Your Subpart N Report](#)

[Subpart N Summary Information for this Facility](#)

[Subpart N Furnace Information](#)

[Subpart N Emissions Information for Furnaces NOT Monitored by CEMS](#)

[Subpart Validation Report](#)

Using Subpart N Calculation Spreadsheets



These optional spreadsheets are provided to assist reporters in calculating emissions and in keeping records of these calculations.

Reporters are required to keep records of these calculations under 40 CFR 98.3(g) and additional subpart-specific provisions, but are not required to use these spreadsheets or to submit any spreadsheets to EPA.

Spreadsheets may include inputs to emission equations, reporting of which EPA has deferred (See 76 FR 53057, published August 25, 2011, <http://www.gpo.gov/fdsys/pkg/FR-2011-08-25/pdf/2011-21727.pdf>).

Overview

This help page provides guidance for working with the supplemental Subpart N spreadsheet tools. The guidance provides step-by-step instructions for the following tasks:

- [Downloading the Calculation Spreadsheet](#)
- [General Information on Using a Calculation Spreadsheet](#)
- [Using the N-1 Calculation Spreadsheet](#)

Downloading the Calculation Spreadsheet

The calculation spreadsheet for Subpart N may be downloaded by clicking the link in the first column of the table below. Users may also jump to instructions for the Calculation Worksheet by clicking the link in the second column.

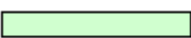



Calculation Worksheet (click to download)	Instructions (click to view)
Equation N-1 Calculation Spreadsheet.xls	N-1 Help

General Information on Using a Calculation Spreadsheet

The guidance provided in this section applies to calculation spreadsheets for all subparts. Additional guidance specific to Subpart N is provided in the following section.

Color coding

The calculation spreadsheets contain green input cells, gray informational cells, and red-bordered results cells filled with yellow or white. Users should use green input cells to enter all data specific to their facility, unit, or process. Gray informational cells contain parameter names, column and row headings, equation constants and subtotals. Calculation results are displayed in red-bordered results cells filled with yellow or white. For red-bordered, yellow-filled results cells, the values in these cells should be entered in the appropriate and separate calculation spreadsheet (as directed below cell) where additional calculations will be made. For red-bordered, white filled results cells, the values in these cells should be entered in e-GGRT for the appropriate process units. All cells that are not green input cells are locked and cannot be modified.

	Green input cell (data entry)
	Gray informational cells (locked)
	Red-bordered, yellow-filled results cells (enter in appropriate and separate calculation spreadsheet)
	Red-bordered, white filled results cells (enter in e-GGRT)

Stop and Warning Messages

The calculation spreadsheets will display a stop message if the user enters a value that is invalid or a warning message if the user enters a value outside the EPA estimated range for a particular data element. For invalid data entries, the stop messages will not allow a user to proceed and the user must reenter valid data before moving forward. For data entries that are outside the EPA estimated range for a particular data element, the warning messages will allow a user to proceed if the user deems the entered value to be accurate.

Using the N-1 Calculation Spreadsheet

Use the N-1 Calculation Spreadsheet to calculate the annual CO₂ emissions from a continuous glass melting furnace. A separate spreadsheet is

to be used for each furnace. Users should not use aggregated data from multiple furnaces in a single calculation spreadsheet. The N-1 Calculation Spreadsheet performs the calculation using Equation N-1, provided below.

(Equation N-1)

$$E_{CO_2} = \sum_{i=1}^n MF_i \cdot \left(M_i \cdot \frac{2000}{2205} \right) \cdot EF_i \cdot F_i$$

Begin by entering the facility name, your name, the glass furnace name or identifier, the reporting period, and any additional comments in the green input cells of the General Information table located immediately below the equation in the Calculation Worksheet. This is for your records.

General Information

Facility Name:	
Reporter Name:	
Unit Name/ ID:	
Reporting Period:	
Comments:	
Unit Type:	Continuous Glass Melting Furnace

Next, enter the requested information in the green input cells of the table titled N-1 Input Data.

N-1 Input Data

Carbonate-Based Raw Material – Mineral	[MF] = Annual average mass fraction of carbonate-based mineral i in carbonate-based raw material i (percentage, expressed as a decimal)	[M] = Annual amount of carbonate-based raw material i charged to furnace (tons)	[EF] = Emission factor for carbonate-based raw material i (metric ton CO2 per metric ton carbonate-based raw material as shown in Table N-1 to this subpart)	[F] = Fraction of calcination achieved for carbonate-based raw material i, assumed to be equal to 1.0 (percentage, expressed as a decimal)
Limestone – CaCO ₃	1.		0.440	1.
Dolomite – CaMg(CO ₃) ₂	1.		0.477	1.
Sodium carbonate/soda ash – Na ₂ CO ₃	1.		0.415	1.
Barium carbonate – BaCO ₃	1.		0.223	1.
Potassium carbonate – K ₂ CO ₃	1.		0.318	1.
Lithium carbonate (Li ₂ CO ₃)	1.		0.596	1.
Strontium carbonate (SrCO ₃)	1.		0.298	1.
	The default value for [MF] is 1			The default value for [F] is 1

The calculation spreadsheet will then calculate the annual CO₂ emissions from this continuous glass melting furnace. The calculated value will be displayed in the red-bordered cell in the N-1 Results table at the bottom of the spreadsheet. This value should be entered in e-GGRT for this furnace.

N-1 Results

[E _{CO2}] = CO ₂ Process emissions from furnace (metric tons)	0.00
--	------

↪ Enter this value in e-GGRT

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