



**e-GGRT Training Webinar on
Reporting GHG Data for Subpart AA**

U.S. Environmental Protection Agency
Greenhouse Gas Reporting Program (GHGRP)

Updated 2/17/12



This training is provided by EPA 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.

This training is provided by EPA 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.

You will see a number of e-GGRT screenshots throughout this webinar. These screenshots may differ slightly from the final version of e-GGRT that is made available for live GHG reporting later this year.

Adding Subpart

EPA United States Environmental Protection Agency

e-GGRT Electronic Greenhouse Gas Reporting Tool

HOME FACILITY REGISTRATION FACILITY MANAGEMENT DATA REPORTING

Chlu Industries (2010)

e-GGRT Greenhouse Gas Data Reporting

Select Facility » Facility or Supplier Overview

FACILITY OR SUPPLIER OVERVIEW

This page allows you to add the source and/or supplier categories for which your facility or supplier will be reporting, then to access those data reporting screens using the OPEN buttons.

After data reporting is complete, you can initiate the annual report review and submission process from this page by using the SUBMIT button (or RESUBMIT for subsequent submissions if needed).

The Annual Report has already been prepared. Any changes you make to report data will not be reflected in that version. After making changes to report data you must choose GENERATE/RESUBMIT below, then click GENERATE REPORT for those changes to be included in an updated version of the Annual Report.

CO₂ equivalent emissions (excluding biogenic) from source categories (metric tons): 33,200

Biogenic CO₂ emissions from source categories (metric tons): 0

CO₂ equivalent quantity from supplier categories (metric tons): 0

VIEW GHO DETAILS

REPORT DATA

2010 Reporting Source or Supplier Category	Validation Messages?	Subpart Reporting
Subpart A—General Information	None	OPEN
Subpart C—General Stationary Fuel Combustion Sources	Not Available	OPEN
Subpart G—Ammonia Manufacturing	Not Available	OPEN

ADD or REMOVE Subparts

If all subparts are completed and Validation Messages addressed to your satisfaction, you are ready to prepare and submit an Annual Report.

SUBMIT ANNUAL REPORT

Report	Status	Sign Date	Submitted Date	View
2010 Annual Report v1	Submitted, Pending Certification and Signature	03/04/2011 1:05 PM		GENERATE / SUBMIT

Clicking the “ADD or REMOVE Subparts” link indicated by the green arrow allows you to add a subpart.

Adding or Removing Subparts



A screenshot of the e-GGRT Greenhouse Gas Data Reporting web application. The interface is titled "Chiu Industries (2010) e-GGRT Greenhouse Gas Data Reporting". It features a navigation menu on the left with "e-GGRT Help" and "Using e-GGRT for Subpart 6 Reporting". The main content area includes a breadcrumb trail: "Select Facility -> Facility Overview -> Subpart Selection". Below this is a section titled "REPORTING SOURCE AND SUPPLIER CATEGORIES" with a note: "Please check the relevant reporting source and/or supplier categories (or 'subparts') for this facility. Information about each, any reporting thresholds, and other information can be found in e-GGRT Help and the links to the left." The categories are organized into three columns: "SOURCE CATEGORIES", "GENERAL STATIONARY FUEL COMBUSTION", and "SUPPLIER CATEGORIES". Each category has a checkbox and a "Description (SHOW/HIDE)" link. The "SOURCE CATEGORIES" column includes: D—Electricity Generation, E—Adipic Acid Production, F—Aluminum Production, G—Ammonia Manufacturing, H—Cement Production, K—Ferrous Production, N—Glass Production, and O—HFC/22 Production and HFC/23 Destruction. The "GENERAL STATIONARY FUEL COMBUSTION" column includes: C—General Stationary Fuel Combustion (Standard Reporting) and C—General Stationary Fuel Combustion (Abbreviated Reporting). The "SUPPLIER CATEGORIES" column includes: LL—Suppliers of Coal-based Liquid Fuels, MM—Suppliers of Petroleum Products, and NN—Suppliers of Natural Gas and Natural Gas Liquids. The text "Continued on Next Page" is displayed in red at the bottom of the screenshot.

Continued on Next Page

The "Add or Remove Subparts" link will open this screen, which shows a pick list of the different subparts.

Adding Subpart AA Facility Data



The screenshot shows a web browser window displaying the e-GGRT application. The main content area is a list of subpart categories, each with a checkbox and a description. The categories are:

- X—Petrochemical Production
Description (SHOW/HIDE)
- Y—Petroleum Refineries
Description (SHOW/HIDE)
- Z—Phosphoric Acid Production
Description (SHOW/HIDE)
- AA—Pulp and Paper Manufacturing
Description (SHOW/HIDE)
- BB—Silicon Carbide Production
Description (SHOW/HIDE)
- CC—Soda Ash Manufacturing
Description (SHOW/HIDE)
- EE—Titanium Dioxide Production
Description (SHOW/HIDE)
- GG—Zinc Production
Description (SHOW/HIDE)

At the bottom of the list, there are two buttons: 'CANCEL' and 'SAVE'. The 'SAVE' button is circled in green. A large green arrow points from the left side of the screen towards the 'AA—Pulp and Paper Manufacturing' option.

This will open the pick list where you will select subpart AA, pulp and paper manufacturing. This demonstration will only cover subpart AA, so we will not select any other subparts. However, it is possible that an actual pulp and paper facility will also include a stationary combustion source, covered under subpart C, and suppliers of carbon dioxide covered under subpart PP. After selecting subpart AA, we click the save button at the bottom of the screen.

Adding Facility Data



The screenshot shows the e-GGRT web application interface. The main heading is "e-GGRT Greenhouse Gas Data Reporting". Below this, it says "Select Facility - Facility or Supplier Overview". The page is titled "FACILITY OR SUPPLIER OVERVIEW" and includes instructions on how to add source and/or supplier categories. A table at the bottom, titled "REPORT DATA", lists reporting subparts and their validation messages. A green arrow points to the "OPEN" button for Subpart AA—Pulp and Paper Manufacturing.

2010 Reporting Source or Supplier Category	Validation Messages?	Subpart Reporting
Subpart A—General Information	None	OPEN
Subpart AA—Pulp and Paper Manufacturing	None	OPEN

This will bring you back to the facility overview page where you will now see subpart AA is available for entering data. The next step is to enter data under this subpart by clicking the “open” button indicated on this slide.

Adding Production Information



The screenshot shows the EPA e-GGRT interface. The main content area is titled 'Subpart AA: Pulp and Paper Manufacturing' and includes an 'OVERVIEW OF SUBPART AA REPORTING REQUIREMENTS' section. Below this is a table for 'SUBPART AA SUMMARY INFORMATION FOR THIS FACILITY' with columns for 'Annual Steam Purchases (pounds)', 'Annual Production of Pulp Products (metric tons)', and 'Annual Production of Paper Products (metric tons)'. A green arrow points to an 'OPEN' button at the end of the first row. A yellow warning icon with the text 'Subpart AA: View Validation' is also present.

Annual Steam Purchases (pounds)	Annual Production of Pulp Products (metric tons)	Annual Production of Paper Products (metric tons)	OPEN

MAKEUP CHEMICAL USAGE SUMMARY

Name/ID	Type	CO ₂ (metric tons)	Status	Delete
No make-up chemical use units present				

+ADD Makeup Chemical Use

The first step is to enter certain information which describes the size of the pulp and paper facility. To enter this information, you will click the “open” button indicated on this slide. Before we go to the next slide, note the validation message. This message appears on all of the data reporting slides to let you know if there are any potential reporting errors or incomplete data fields. If there is a potential reporting issue, you will see the exclamation point appearing on this slide. At this point, we have not entered any data for this facility, so the message is indicating that the data report is incomplete. We will continue to monitor this message as we go through this demonstration.

Adding Production Information



The screenshot shows the EPA e-GGRT interface for 'Subpart AA: Pulp and Paper Manufacturing'. The form contains the following data:

Field	Value	Unit
Annual steam purchases	2000000000	(pounds per year)
Annual production of pulp products	365000	(metric tons)
Annual production of paper products	3000000	(metric tons)

The 'SAVE' button is circled in green, and three green arrows point to the input fields, labeled 1, 2, and 3 respectively.

Opening the subpart AA facility information will bring you to this page where you can enter the required data, which includes annual steam purchases (arrow #1), annual production of pulp products (arrow #2), and annual production of paper products (arrow #3). Once you have entered this data, click “save”.

Summary Information



The screenshot displays the EPA e-GGRT web application interface. The main content area is titled "Subpart AA: Pulp and Paper Manufacturing". It includes an overview of reporting requirements, a table for "Subpart AA Summary Information for this Facility", and a section for "Makeup Chemical Usage Summary".

Subpart AA Summary Information for this Facility

Annual Steam Purchases (pounds)	Annual Production of Pulp Products (metric tons)	Annual Production of Paper Products (metric tons)
20,000,000,000	300,000	800,000

Makeup Chemical Usage Summary

Name/ID	Type	CO ₂ (metric tons)	Status	Delete
No makeup chemical use units present				
ADD Makeup Chemical Use				

After you have entered and saved the production and steam purchases data, you will return to the facility overview screen where you will see the data you entered. Also note that the validation message screen indicates that there are issues since no units have been added.

Adding Makeup Chemical Use



The screenshot shows the e-GRT web application interface. At the top, there is a message: "Then enter Greenhouse gas (GHG) data required by Subpart AA for each. For additional information about Subpart AA reporting, please use the e-GRT Help link(s) provided." A green checkmark icon indicates "Subpart AA: No Validation Messages".

SUBPART AA SUMMARY INFORMATION FOR THIS FACILITY

Annual Steam Purchases (gallons)	Annual Production of Pulp Products (metric tons)	Annual Production of Paper Products (metric tons)
20,000,000,000	365,000	3,000,000

MAKEUP CHEMICAL USAGE SUMMARY

Name/ID	Type	CO ₂ (metric tons)	Status	Delete
No make-up chemical use units present				
+ADD Makeup Chemical Use				

UNIT AND FURNACE SUMMARY

Name/ID	Type	Biogenic CO ₂ (metric tons)	Non-Biogenic CO ₂ (metric tons)	Status	Delete
No units or furnaces have been added					
+ADD a Unit or Furnace					

UNIT AND FURNACE SUMMARY (UNITS AND FURNACES MONITORED BY CEMS)

Name/ID	Type	CO ₂ (metric tons)	CH ₄ (metric tons)	N ₂ O (metric tons)	Status	Delete
No units or furnaces have been added						
+ADD a Unit or Furnace Monitored by CEMS						

[Facility Overview](#)

The next step is to enter emissions data for the different units at the pulp and paper facility. We will begin with adding makeup chemical use, which is intended to describe emissions associated with makeup chemical use throughout the facility, rather than for a specific unit.

Adding Makeup Chemical Use



The screenshot shows the EPA e-GGRT interface for adding a new unit. The page title is 'Subpart AA: Pulp and Paper Manufacturing'. A grey box provides instructions: 'Subpart AA requires a facility or supplier to uniquely identify each chemical recovery furnace, chemical recovery combustion unit, pulp mill lime kiln, and makeup chemical system and provide the information described below for each. For additional information about adding and editing a furnace, unit, kiln or makeup chemical system, please use the e-GGRT Help link(s) provided.' The 'UNIT INFORMATION' section has the following fields: 'Name or ID' (Make-up Chemical Demo), 'Description (optional)' (Make-up Chemical demonstration), and 'Type' (Make-up Chemical Use). The 'SAVE' button is circled in green.

When you click the “add makeup chemical” link, you will open this screen where you will enter identification information for the makeup chemical system. Note that the instructions provided in the grey box pertain to every type of unit covered under subpart AA, including makeup chemical systems. The description field is optional, but might be useful for tracking certain information (e.g., type of carbonate chemicals used). Once you have completed the fields required by e-GGRT, click save.

Adding Makeup Chemical Use



The screenshot shows the EPA e-GGRT web application interface. The main content area is titled "Subpart AA: Pulp and Paper Manufacturing" and includes an "Overview of Subpart AA Reporting Requirements" section. Below this, there is a "Subpart AA Summary Information for this Facility" table and a "Makeup Chemical Usage Summary" table. The "Makeup Chemical Usage Summary" table has the following data:

Name-ID	Type	CO ₂ (metric tons)	Status	Open
Make-up Chemical Demo	Make-up Chemical Use		Incomplete	OPEN

A green arrow points to the "OPEN" button in the "Makeup Chemical Usage Summary" table. A red warning message "Subpart AA: View Validation" is also circled in green.

This will bring you back to the facility overview where you will see data entry is incomplete. This is indicated in two places: by the validation message and by the status message, which are both circled on this slide. In order to complete the data entry, click the "open" button marked with the green arrow.

Adding Makeup Chemical Use



FACILITY 44 (2010)
Subpart AA: Pulp and Paper Manufacturing
Subpart Overview • Make-up Chemical Demo • Eq. AA-3

GHG DATA AND ASSOCIATED INFORMATION
Use this page to enter the GHG data required by Subpart AA. Please enter the information shown for this makeup chemical system. For additional information about the data collected on this page, please use the e-GGRT Help link(s) provided.

Annual CO₂ (metric tons)

EQUATION AA-3 SUMMARY AND RESULT
$$[CO_2] = \left[M_{CaCO_3} \cdot \frac{44}{100} + M_{Na_2CO_3} \cdot \frac{44}{106.99} \right]$$

Hover over an element in the equation above to reveal a definition of the element.

CO₂ mass emissions from makeup chemicals (metric tons)
[Use Subpart AA-3 equation spreadsheets to calculate](#)

ANNUAL MAKE-UP CHEMICAL USE

Annual quantity of CaCO₃ (equivalent carbonate), substitute value used (check if true)

Annual quantity of Na₂CO₃ (equivalent) (check if true)

Use the **OPTIONAL e-GGRT Calculation Spreadsheet** to calculate the Equation Result that is entered here. Inputs to emission equations for direct reporters are not currently collected by e-GGRT (75 FR 81350 Dec 27, 2010)

This will open the screen where you will enter emissions data for the makeup chemical system. Just below the data field where you entered the emissions data, there is a link to “Use subpart AA-3 equations spreadsheet”. This is an optional calculation spreadsheet for equation AA-3, the prescribed equation for calculating GHG emissions from makeup chemical use, which allows you to enter the required equation inputs and calculate the emissions.

Calculation Spreadsheets, CBI and Inputs



- All elements included in e-GGRT are required reporting elements, as applicable
- E-GGRT currently reflects the rule deferring reporting of inputs to emission equations that was signed by the Administrator on August 19, 2011. A pre-publication version of the rule can be found at the GHG Reporting Program Website:
<http://www.epa.gov/ghgreporting/reporters/cbi/index.html>
- Data elements that have been determined to be CBI must be reported
- Reporting elements that have been determined to be CBI will be protected under the Clean Air Act (Sec. 114 (c)) and EPA regulations (40 CFR Part 2)

14

Please note that if you used the Optional Calculation Spreadsheets during our Sandbox Testing opportunity earlier this year, those spreadsheets may have change since then. When e-GGRT opens for Live GHG reporting next week, be sure to download the most recent and corrected version of the calculation spreadsheets.

E-GGRT currently reflects the rule deferring reports of inputs to emission equations for direct emitters.

This means that in certain web forms in e-GGRT, you can view a required equation, but you will only enter the RESULT of that equation into e-GGRT. If you are using the XML upload option, the XML schema will also only include the RESULT of the equation as a data element.

The inputs of the equation are NOT currently collected by e-GGRT. EPA is providing OPTIONAL calculation spreadsheets that you can use to perform the calculations called for in the emission equations. These Microsoft Excel spreadsheets can be downloaded and opened on your own computer. Just click the hyperlink on the web-form to view and download the appropriate calculation spreadsheet for the equation you are working on. You can enter the data, including equation inputs, necessary to perform the calculation for the equation, and the spreadsheets will calculate the result for you. Once you have calculated the result, enter the result on to the e-GGRT web form.

E-GGRT will NOT collect the calculation spreadsheets and you do NOT need to submit them outside of e-GGRT. The use of these calculation spreadsheets is voluntary. The spreadsheets are meant to support reporters as they complete the e-GGRT online reporting process. You do not need to use EPA's spreadsheets to perform the calculations for the emissions equations, but you do need to keep records of these calculations (under 40 CFR 98.3(g) and additional subpart-specific provisions). Whether or not you use the calculation spreadsheets provided by EPA. If you do not use the spreadsheets, you may choose to maintain copies to help meet your record-keeping requirements.

Makeup Chemical Spreadsheet



Subpart AA: Pulp and Paper Manufacturing

Using Subpart AA Calculation Spreadsheets

Overview

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

- Selecting the Appropriate Spreadsheet
- Downloading a Spreadsheet
- General Information on Using a Spreadsheet
- Using the Equation AA-1 Calculation Spreadsheet
- Using the Equation AA-2 Calculation Spreadsheet
- Using the Equation AA-3 Calculation Spreadsheet

The use of these spreadsheet tools is voluntary. The spreadsheets are meant to support reporters as they complete the e-GGRT online reporting process. Users are not currently required to submit this spreadsheet through e-GGRT but should maintain a copy for recordkeeping purposes. EPA may request this information in subsequent reporting years. Specific information on each of the spreadsheet tools is provided below:

Calculation Spreadsheet (click to download)	Calculation Results	Instructions (click to view)
Equation AA-1 Calculation Spreadsheet.xls	Furnace: Bio-CO ₂ , CH ₄ , N ₂ O Combustion Unit: CH ₄ , N ₂ O	AA-1 Help
Equation AA-2 Calculation Spreadsheet.xls	Combustion Unit: Bio-CO ₂	AA-2 Help
Equation AA-3 Calculation Spreadsheet.xls	Make-up Chemical Use: CO ₂	AA-3 Help

Powered by Atlassian Confluence 3.3, the Enterprise Wiki | Report a bug | Atlassian News

This next screen shows what you will see when you click on the “spreadsheet” link. At this point, you can open and use the appropriate spreadsheet.

Makeup Chemical Spreadsheet



Microsoft Excel

Equation AA-3 Calculation Spreadsheet.xls [Read-Only] [Compatibility Mode]

1 Subpart AA - Pulp and Paper Manufacturing - Calculating CO₂ Mass Emissions from Makeup Chemical Use Using Equation AA-3
 2 DO NOT SUBMIT THIS WORKSHEET TO EPA - FOR FACILITY RECORDS ONLY
 3 Version e-GGRT RY2010 R.01
 4 Today's date 6/2/2011

6 Equation AA-3: $CO_2 = M_{(CaCO_3)} \cdot \frac{44}{100} + M_{(Na_2CO_3)} \cdot \frac{44}{105.99} \cdot 1000 \text{ kg / metric ton}$

10 Facility Name:
 11 Reporter Name: ← 1
 12 Unit Name/ID:
 13 Reporting Period:
 14 Comments:
 15 Unit Type: Makeup Chemical Use

17 Input Data

18 $M_{(CaCO_3)}$ = Makeup quantity of CaCO₃ used for the reporting year (metric tons per year) ← 2
 19 $M_{(Na_2CO_3)}$ = Makeup quantity of Na₂CO₃ used for the reporting year (metric tons per year) ← 3

21 Constants

22 [44] = Molecular weight of CO₂ 44
 23 [100] = Molecular weight of CaCO₃ 100
 24 [105.99] = Molecular weight of Na₂CO₃ 105.99

This next screen shows what you will see when you open the Equation AA-3 calculation spreadsheet. The light green boxes are where you will enter your input data. Information regarding facility name, reporter name, etc. is optional for your own record keeping purposes (arrow #1). The fields identified with the red arrows (arrows #2 and #3) are the fields where you will enter the inputs for equation AA-3.

Makeup Chemical Spreadsheet



The screenshot shows a Microsoft Excel spreadsheet titled "Equation AA-3 Calculation Spreadsheet.xls [Read-Only] [Compatibility Mode]". The spreadsheet is organized into several sections:

- Input Data:** Rows 17-19. Row 17: $[M_{CaCO_3}]$ = Makeup quantity of CaCO₃ used for the reporting year (metric tons per year). Row 18: $[M_{Na_2CO_3}]$ = Makeup quantity of Na₂CO₃ used for the reporting year (metric tons per year).
- Constants:** Rows 22-26. Row 22: $[44]$ = Molecular weight of CO₂, value 44. Row 23: $[100]$ = Molecular weight of CaCO₃, value 100. Row 24: $[105.99]$ = Molecular weight of Na₂CO₃, value 105.99. Row 25: $[1600]$ = kg/metric ton, value 1600.
- Annual CO₂ Mass Emissions from Equation AA-3 in Units of Kilograms:** Row 29. $[CO_2]$ = CO₂ mass emissions from makeup chemicals (kilograms/yr), value 0.00.
- Annual CO₂ Mass Emissions from Equation AA-3 in Units of Metric Tons:** Row 32. $[CO_2]$ = CO₂ mass emissions from makeup chemicals (metric tons/yr), value 0.00. A red arrow points to this cell, and a red box highlights it with the text "Enter this value in e-GGRT".

This next screen shows where you see the results of the calculation, noted with a red arrow. As indicated on the spreadsheet, this is the value you will report in e-GGRT. Please note that this spreadsheet is not be submitted to EPA, but should be kept with your records.

Adding Makeup Chemical Use Data



FACILITY 44 (2010)
Subpart AA: Pulp and Paper Manufacturing
Subpart Overview » Make-up Chemical Demo » Eq. AA.3

GHG DATA AND ASSOCIATED INFORMATION
Use this page to enter the GHG data required by Subpart AA. Please enter the information shown for this makeup chemical system. For additional information about the data collected on this page, please use the e-GGRT Help link(s) provided.

EQUATION AA-3 SUMMARY AND RESULT
 $[CO_2] = [M_{CaCO_3} * \frac{44}{100} + M_{Na_2CO_3} * \frac{44}{105.99}]$
Hover over an element in the equation above to reveal a definition of that element.

CO₂ mass emissions from makeup chemicals: 100000 (metric tons) **1**
Use Subpart AA-3 equation spreadsheet to calculate

ANNUAL MAKE-UP CHEMICAL USE

Annual quantity of CaCO₃ (calcium carbonate), substitute value used (check if true) **2**

Annual quantity of Na₂CO₃ (sodium carbonate), substitute value used (check if true) **3**

Annual CO₂e (metric tons): 100000

Once you have calculated the emissions for makeup chemical use, you will enter the results in the field indicated by arrow #1. On this same screen, you need to indicate by checking the boxes indicated, arrows #2 and #3, whether substitute values were used to represent the annual quantity of calcium carbonate and sodium carbonate used. You will close this slide by clicking the save button at the bottom of the screen. Note that the calculator in the right hand corner will show the total CO₂e emissions for the facility as data is entered for each of the units.

Adding Chemical Recovery Unit



The screenshot displays the e-GGRT web application interface. At the top, a message states: "Then enter Greenhouse gas (GHG) data required by Subpart AA for each. For additional information about Subpart AA reporting, please use the e-GGRT Help link(s) provided." A green circle highlights a message: "Subpart AA: No Validation Messages".

SUBPART AA SUMMARY INFORMATION FOR THIS FACILITY

Annual Stream	Annual Production of Poly Products (metric tons)	Annual Production of Paper Products (metric tons)
20,000,000,000	365,000	3,000,000

MAKEUP CHEMICAL USAGE SUMMARY

Name/ID	Type	CO ₂ (metric tons)	Status ¹	Delete
Makeup Chemical Usage	Make-up Chemical Use	100,000	Complete	OPEN

UNIT AND FURNACE SUMMARY

Name/ID	Type	Biogenic CO ₂ (metric tons)	Non-Biogenic CO ₂ (metric tons)	Status ¹	Delete
No units or furnaces have been added					

[ADD a Unit or Furnace](#)

UNIT AND FURNACE SUMMARY (UNITS AND FURNACES MONITORED BY CEMS)

Name/ID	Type	CO ₂ (metric tons)	CH ₄ (metric tons)	N ₂ O (metric tons)	Status ¹	Delete
No units or furnaces have been added						

[ADD a Unit or Furnace Monitored by CEMS](#)

[Facility Overview](#)

¹ A status of "incomplete" means that one or more required data elements are incomplete. For details, refer to the Data Completeness.

After saving the makeup chemical systems data, you will return to the facility overview screen where you will see that data entry for the makeup chemical usage is complete and there are no data validation messages (arrow #1). The next step will be to add a chemical recovery combustion unit, by clicking the "ADD a unit or furnace" link (arrow #2).

Adding Chemical Recovery Unit



FURNACE, UNIT, KILN OR MAKEUP CHEMICAL SYSTEM INFORMATION
Subpart AA requires a facility or supplier to uniquely identify each chemical recovery furnace, chemical recovery combustion unit, pulp mill lime kiln, and makeup chemical system and provide the information described below for each. For additional information about adding and editing a furnace, unit, kiln or makeup chemical system, please use the e-GGRT Help link(s) provided.

UNIT INFORMATION

1 **Name or ID*** (40 characters maximum)
CRCU Demonstration

Description (optional)
Chemical recovery unit demonstration

2 **Type***
Select
Chemical Recovery Furnace
Chemical Recovery/Combustion Unit
Pulp Mill Lime Kiln

3 **Is this unit's emissions monitored using a CEMS?***
 No

The next screen requires that certain information is entered to identify and describe the unit. Fields marked with the red asterisks must be completed in order to proceed in e-GGRT. The field marked by arrow #1 is where you will enter the name or ID for the unit. A description of the unit is optional, but could be helpful keeping track of data. The field marked by arrow #2 is a drop-down menu where you will select the type of unit. Note that one of the required fields is to confirm that the unit is not monitored by CEMS (arrow #3)

Adding Chemical Recovery Unit Data



Subpart AA: Pulp and Paper Manufacturing
Subpart Overview

OVERVIEW OF SUBPART AA REPORTING REQUIREMENTS
Subpart AA requires selected facilities to report carbon dioxide (CO₂), nitrous oxide (N₂O), and methane (CH₄) emissions from chemical recovery furnaces at kraft and soda mills, chemical recovery combustion units at sulfate facilities and at stand-alone semichemical facilities and pulp mill lime kilns at kraft and soda facilities. First, use this page to identify each unit, furnace and/or kiln and identify any systems for adding makeup chemicals in the chemical recovery areas of chemical pulp mills. Then enter Greenhouse gas (GHG) data required by Subpart AA for each. For additional information about Subpart AA reporting, please use the e-GRT Help link(s) provided.

SUBPART AA SUMMARY INFORMATION FOR THIS FACILITY

Annual Steam Purchases (pounds)	Annual Production of Pulp Products (metric tons)	Annual Production of Paper Products (metric tons)
20,000,000,000	365,000	3,000,000

MAKEUP CHEMICAL USAGE SUMMARY

Name/ID	Type	CO ₂ (metric tons)	Status	Delete
Make-up Chemical Demo	Make-up Chemical Use	100,000	Complete	OPEN

UNIT AND FURNACE SUMMARY

Name/ID	Type	Biogenic CO ₂ (metric tons)	Non-Biogenic CO ₂ (metric tons)	Status	Delete
CRCU Demonstration	Chemical Recovery Combustion Unit			Incomplete	OPEN

Once the unit information is entered and saved, you will return to the facility overview page where you will see the validation message indicates a problem, referring to the incomplete data entry for the chemical recovery combustion unit. The next step is to enter the emissions data for this unit by clicking the “open” button indicated with the green arrow.

Adding Chemical Recovery Unit Data



FACILITY 44 (2010)
Subpart AA: Pulp and Paper Manufacturing
Subpart Overview • CRCU Demonstration = Eq. AA-1 & AA-2

GHG DATA AND ASSOCIATED INFORMATION
Use this page to enter the GHG data required by Subpart AA. Please enter the information shown for this chemical recovery combustion unit. For additional information about the data collected on this page, please use the e-GGRT Help link(s) provided.

Annual Biogenic CO ₂ (metric tons)	1000000
Annual CH ₄ from biomass (metric tons)	500
Annual N ₂ O from biomass (metric tons)	300

EQUATION AA-2 SUMMARY AND RESULT
$$\text{Biogenic CO}_2 = \frac{24}{10} \text{ Solids} \cdot \text{CC} \cdot (0.90718)$$

Hover over an element in the equation above to reveal a definition of that element.

Result (Biogenic CO₂) 1000000 (metric tons)

[Use Subpart AA-2 equation spreadsheets to calculate](#)

This brings you to the screen where you will enter biogenic CO₂, CH₄ and N₂O (beginning with CO₂ indicated by arrow #1). As before, you have the option to use the calculation spreadsheet available by clicking the link below the field where you will enter the emission estimates (arrow #2).

Adding Chemical Recovery Unit Data



Result (CH₄ from biomass) 500 (metric tons)
Use Subpart AA-T equation spreadsheets to calculate

Result (H₂O from biomass) 300 (metric tons)
Use Subpart AA-T equation spreadsheets to calculate

ANNUAL MASS OF SPENT LIQUOR SOLIDS
Basis for determining the annual mass of spent liquor solids

Annual mass of spent liquor solids, substitute value used

Note: The following Fuel Emissions Information (fuels combusted by this reporting unit) section does not apply for spent pulping liquor (the primary fuel for chemical recovery combustion units and recovery furnaces).

FUEL EMISSIONS INFORMATION (fuels combusted by this reporting unit)

Fuel	Calculation Period	Methodology	Status*	Delete
No fuels present				

ADD Fuel

Subpart AA Overview CANCEL SAVE

* 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 on the overview page. (Note: if there are no validation messages for this subpart you will not see this link.)

In addition to entering the biogenic emissions data, you will also be required to identify the method used to determine the amount of annual mass spent liquor solids, which is selected from a pull-down menu (arrow #1), and indicate whether substitute values were used by checking the box (arrow #2, but covered by the dropdown menu). Also note that the third arrow shows where you will enter data for fossil fuel emissions, which we'll come back to in the upcoming slides.

Adding Chemical Recovery Unit Data



Subpart AA: No Validation Messages

SUBPART AA SUMMARY INFORMATION FOR THIS FACILITY

Annual Steam Purchases (pounds)	Annual Production of Pulp Products (metric tons)	Annual Production of Paper Products (metric tons)
20,000,000.00	365,000	3,000,000

MAKEUP CHEMICAL USAGE SUMMARY

Name/ID	Type	CO ₂ (metric tons)	Status ¹	Delete
Make-up Chemical Demo	Make-up Chemical Use	100,000	Complete	OPEN

UNIT AND FURNACE SUMMARY

Name/ID	Type	Biogenic CO ₂ (metric tons)	Non Biogenic CO ₂ (metric tons)	Status ¹	Delete
CRCU Demonstration	Chemical Recovery Combustion Unit	1,000,000		Incomplete	OPEN

UNIT AND FURNACE SUMMARY (UNITS AND FURNACES MONITORED BY CEMS)

Name-ID	Type	CO ₂ (metric tons)	CH ₄ (metric tons)	H ₂ O (metric tons)	Status ¹	Delete
No units or furnaces have been added						

¹ A status of "incomplete" means that one or more required data elements are incomplete. For details, refer to the Data Completeness.

After entering the biogenic emissions and clicking save, we return to the facility overview page where you will see the data entry for the chemical recovery combustion unit is incomplete since fossil fuel emissions data was not entered. To enter fossil fuel emissions data, we will click the "open" button where indicated.

Adding Fossil Fuel Data



Result (CO₂ from biomass) 500 (metric tons)
Use Subpart AA-T equation spreadsheets to calculate

Result (H₂O from biomass) 300 (metric tons)
Use Subpart AA-T equation spreadsheets to calculate

ANNUAL MASS OF SPENT LIQUOR SOLIDS
Basis for determining the annual mass of spent liquor solids
Annual mass of spent liquor solids, substitute value used

Note: The following Fuel Emissions Information (fuels combusted by this reporting unit) section does not apply for spent pulping liquor (the primary fuel for chemical recovery combustion units and recovery furnaces).

FUEL EMISSIONS INFORMATION (fuels combusted by this reporting unit)

Fuel	Calculation Period	Methodology	Status*	Delete
No fuels present				

[ADD a Fuel](#)

[Subpart AA Overview](#) [CANCEL](#) [SAVE](#)

* 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 on the overview page. (Note: if there are no validation messages for this subject you will not see this link.)

This returns us to the screen where we entered emissions data. To add fossil fuel emissions, click the “add a fuel” link where indicated by the green arrow.

Adding Fossil Fuel Data



ADD A FUEL

Use this page to select a fuel combusted in this stationary combustion unit or group. Repeat this process for each fuel consumed by this stationary combustion unit or group over the course of the reporting year. If the fuel you wish to add is not on the list, click "ADD an Other Fuel or Blend" to add a new fuel type. For additional information about reporting fuel information, please use the e-GRRT Help link(s) provided.

COAL AND COKE [HIDE](#)

- Anthracite
- Bituminous
- Subbituminous
- Lignite
- Coke
- Mixed (Commercial sector)
- Mixed (Industrial coking)
- Mixed (Industrial sector)
- Mixed (Electric Power sector)

NATURAL GAS [HIDE](#)

- Natural Gas (Weighted U.S. Average)

PETROLEUM PRODUCTS [SHOW](#)

OTHER FUELS - SOLID [SHOW](#)

OTHER FUELS - GASEOUS [SHOW](#)

OTHER FUELS AND BLENDS [HIDE](#)

No other fuels or blends present

[Add an Other Fuel or Blend](#)

This will open a pick list screen where you select the type of fossil fuel the unit burns. For this example, we will select natural gas and click save at the bottom of the screen.

Adding Fossil Fuel Data



Unit or Group Name: CRCU Demonstration

Fuel (Fuel Type): Natural Gas (Weighted U.S. Average) (Natural Gas)

Calculation Methodology Start* Date: 01/01/2010

Calculation Methodology End* Date: 12/31/2010

Calculation Methodology: Indicate your calculation methodology for this fuel, for the Emissions Calculation Period specified.

- Tier 1 (equations C-1 and C-8)
- Tier 1 (equations C-1a and C-8a)
For use with natural gas, when billing records are used to quantify usage, and consumption is expressed in units of therms.
- Tier 1 (equations C-1b and C-8b)
For use with natural gas, when billing records are used to quantify usage, and consumption is expressed in units of mmbtu.
- Tier 2 (equations C-2a and C-8a)
For use with any type of fuel listed in Table C-1, except for municipal solid waste (MSW).
- Tier 3 (equations C-5 and C-8)

After selecting the fuel type and clicking save, you will open a screen where you will enter the period during which the identified fossil fuel was used, indicated by the start and end dates shown (arrows #1 and #2), and identify the methodology/tier that will be used to calculate the fossil fuel emissions (arrow #3). The methodologies for calculating fossil fuel emissions are taken directly from subpart C of the rule, which is the subpart that applies to stationary combustion sources. Subpart C describes which tier is required to be used based on fuel type and size of the unit.

Adding Fossil Fuel Data



Result (tO₂ from biomass) 300 (metric tons)

ANNUAL MASS OF SPENT LIQUOR SOLIDS

Base for determining the annual mass of spent liquor solids TAPPI method

Annual mass of spent liquor solids, substitute value used (check if true)

Note: The following Fuel Emissions Information (fuels combusted by this reporting unit) section does not apply for spent pulping liquor (the primary fuel for chemical recovery combustion units and recovery furnaces).

Fuel	Calculation Method	Methodology	Status	Details
Natural Gas (Weighted U.S. Average)	01/01/2010 - 12/31/2010	Tier 1 (Equation C-1)	Incomplete	OPEN

ADD Fuel

Subpart AA Overview CANCEL SAVE

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 on the overview page. (Note: if there are no validation messages for this subpart you will not see this link).

After selecting and saving the fuel type, period of use and the methodology to be used to estimate emissions, you will return to data entry screen for the chemical recovery combustion unit. The fossil fuel data entered will appear in the grey box indicated on this screen and an “incomplete” status will indicate that the data entry is not complete. The next step is to enter the fossil fuel emissions by clicking the open button indicated by the green arrow.

Adding Fossil Fuel Data



FACILITY 44 (2010)
Subpart AA: Pulp and Paper Manufacturing
Subpart AA Overview » CRCU Demonstration » Line K06 » Fuel-specific Emissions

FUEL-SPECIFIC EMISSIONS
Use this page to enter the annual GHG emissions information for this fuel. For additional information about the data collected on this page, please use the e-GORT Help link(s) provided.

CONFIGURATION-FUEL-PERIOD

Unit or Group Name ID	CRCU Demonstration
Fuel (Fuel Type)	Natural Gas (Weighted U.S. Average) (Natural Gas)
Reporting Period	01/01/2010 - 12/31/2010

EQUATION C-1 SUMMARY AND RESULT

$CO_2 = 1 \times 10^{-3} \times \text{Fuel} \times \text{HHV} \times \text{EF}$
Hover over an element in the equation above to reveal a definition of that element.

Annual CO₂ emissions from combustion of the specified fuel: **5730** (metric tons)
Use Equation C-1/C-B spreadsheet to calculate

This will open the screen where you will enter CO₂, CH₄ and N₂O emissions for the selected fossil fuel. Again, you have the option to use the calculation spreadsheet that is provided by clicking the link below the data entry field.

Adding Fossil Fuel Data



Annual CO₂ emissions from combustion of the specified fuel: 5730 (metric tons)

Annual CH₄ emissions from combustion of the specified fuel: 0.11 (metric tons)

Annual N₂O emissions from combustion of the specified fuel: 0.011 (metric tons)

CO₂ equivalent value for Annual CH₄ emissions: 2.3 (metric tons)

CO₂ equivalent value for Annual N₂O emissions: 3.3 (metric tons)

CANCEL SAVE

In addition to entering CO₂, CH₄ and N₂O emissions from fossil fuel combustion (arrows #1,#2 and #3), CO₂e for CH₄ and N₂O are automatically calculated and entered (arrows #4 and #5). After completing these data fields, click “save”.

Adding Fossil Fuel Data



Result (H₂O from biomass) 0.011 (metric tons)

ANNUAL MASS OF SPENT LIQUOR SOLIDS

Base for determining the annual mass of spent liquor solids TAPPI method

Annual mass of spent liquor solids, substitute value used (check if true)

Note: The following Fuel Emissions Information (fuels combusted by this reporting unit) section does not apply for spent pulping liquor (the primary fuel for chemical recovery combustion units and recovery furnaces).

FUEL EMISSIONS INFORMATION (fuels combusted by this reporting unit)

Fuel	Calculation Method	Methodology	Status	Delete
Natural Gas (Weighted U.S. Average)	01/01/2010 - 12/31/2010	Tier 1 (Equation C-1)	Complete	OPEN X

ADD Fuel

Subpart AA Overview CANCEL SAVE

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 on the overview page. (Note: if there are no validation messages for this subject you will not see this link.)

Paperwork Reduction Act Burden Statement | Contact Us

e-GRT RY2010 R.48 | SFMA06-5

This will return you to the data entry screen for the chemical recovery combustion unit, where you will see that data entry for fuel emissions is complete. Clicking save will return you to facility overview page.

Adding a Lime Kiln Unit



The screenshot displays the e-GRT web application interface. The main content area is titled 'SUBPART AA SUMMARY INFORMATION FOR THIS FACILITY'. It includes several summary tables:

- Annual Steam Purchases (pounds):** 20,000,000,000
- Annual Production of Pulp Products (metric tons):** 365,000
- Annual Production of Paper Products (metric tons):** 3,000,000

Below these are sections for 'MAKEUP CHEMICAL USAGE SUMMARY' and 'UNIT AND FURNACE SUMMARY'. The 'UNIT AND FURNACE SUMMARY' table lists existing units, such as 'CAUSTI' (Make-up Chemical Use) and 'RF3a_range' (Chemical Recovery Furnace), both with a status of '5 Complete'. A green arrow points to the link 'ADD a Unit or Furnace' located below the table.

At the bottom of the page, there is a footer with the text: 'Paperwork Reduction Act Burden Statement | Contact Us | e-GRT R/2010 R.44 | SPAAC-9'

In the next example we will add a lime kiln unit. The first step to add a lime kiln unit is to click the “Add a Unit or Furnace” link where shown.

Adding a Lime Kiln Unit



The screenshot shows the e-GGRT web application interface. The browser window title is "e-GGRT - Mozilla Firefox". The address bar shows the URL: https://eedhbw.rtpnc.epa.gov/gg/datarptng/subpartaa/aa_sens.do?unitChoice=no. The page header includes the EPA logo and navigation tabs: HOME, FACILITY REGISTRATION, FACILITY MANAGEMENT, and DATA REPORTING. The main content area is titled "Subpart AA: Pulp and Paper Manufacturing" and includes a section for "CONTINUOUS EMISSIONS MONITORING SYSTEMS (CEMS)". A green arrow points to the "No" radio button under the question "In this unit's emissions monitored using a CEMS?".

AA - Mill 1 Test (2010)
Subpart AA: Pulp and Paper Manufacturing
Subpart Overview - New Unit - [Cancel No CEMS](#)

CONTINUOUS EMISSIONS MONITORING SYSTEMS (CEMS)
Please indicate whether or not the emissions for this chemical recovery furnace, chemical recovery combustion unit or pulp mill lime kiln 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

Paperwork Reduction Act Burden Statement | Contact Us
e-GGRT RY2010 R.44 | EPA/600-2

This will open the page where you will confirm the unit is not monitored using a CEMS. For this demonstration, we will assume this is the case and click “no”.

Adding a Lime Kiln Unit



AA - MUI 1 Test (2010)
Subpart AA: Pulp and Paper Manufacturing
Subpart Overview • New Unit • [Create unit](#)

FURNACE, UNIT, KILN OR MAKEUP CHEMICAL SYSTEM INFORMATION
Subpart AA requires a facility or supplier to uniquely identify each chemical recovery furnace, chemical recovery combustion unit, pulp mill lime kiln, and makeup chemical system and provide the information described below for each. For additional information about adding and editing a furnace, unit, kiln or makeup chemical system, please use the e-GGRT Help link(s) provided. * denotes a required field

UNIT INFORMATION

1 → Name or ID* Pulp Lime Kiln Test 1 (40 characters maximum)
2 → Description (optional) Lime kiln demonstration
3 → Type* Select
Chemical Recovery Furnace
Chemical Recovery Combustion Unit
Lime Kiln
4 → CONTINUOUS EMISSIONS MONITORING
Is this unit's emissions* monitored using a CEMS? No

On the next screen you will enter information about the unit being added. The first field, indicated by arrow #1, is where you will enter the name and/or ID for the unit. This is a required e-GGRT field. Following the Name/ID field is a space to provide a description, arrow #2. As indicated, this field is optional. Arrow #3 indicates where you will select the type of unit from the pull down menu. Finally, arrow #4 shows where you will again indicate if the unit is monitored using a CEMS. The last step is to save.

Adding a Lime Kiln Unit



SUBPART AA SUMMARY INFORMATION FOR THIS FACILITY

Annual Steam Purchases (tonnes)	Annual Production of Pulp (metric tons)	Annual Production of Paper (metric tons)
20,000,000,000	365,000	3,000,000

MAKEUP CHEMICAL USAGE SUMMARY

Name/ID	Type	CO ₂ (metric tons)	Status	Delete
CAUSTI	Make-up Chemical Use	5	Complete	OPEN X

UNIT AND FURNACE SUMMARY

Name/ID	Type	Biogenic CO ₂ (metric tons)	Status	Delete
RFS_range	Chemical Recovery Furnace	5	Complete	OPEN X
Pulp Lime Kiln Test 1	Pulp Mill Lime Kiln	N/A	Incomplete	OPEN X

UNIT AND FURNACE SUMMARY (UNITS AND FURNACES MONITORED BY CEMS)

Name/ID	Type	CO ₂ (metric tons)	CH ₄ (metric tons)	N ₂ O (metric tons)	Status	Delete
No units or furnaces have been added						

Facility Overview

¹ 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 Validator" link above. Note: if there are no validation messages for this support you will not see this link.

The facility overview page now shows the pulp lime kiln we added, but is incomplete since we haven't entered the emissions data for this unit. So the next step is to open this unit by clicking the "open" button for this unit.

Adding Lime Kiln Emissions



AA - Mill 1 Test (2010)
Subpart AA: Pulp and Paper Manufacturing
Subpart Overview - Pulp Lime Kiln Test 1 - Lime Kiln

GHG DATA AND ASSOCIATED INFORMATION
Use this page to enter the GHG data required by Subpart AA. Please enter the information shown for this pulp mill time slice. For additional information about the data collected on this page, please use the e-GGRT Help link(s) provided.

Note: The following Fuel Emissions Information (fuels combusted by this reporting unit) section does not apply for spent pulping liquor (the primary fuel for chemical recovery combustion units and recovery furnaces).

FUEL EMISSIONS INFORMATION (fuels combusted by this reporting unit)

Fuel	Calculation Period	Methodology	Status*	Delete
No fuels present				

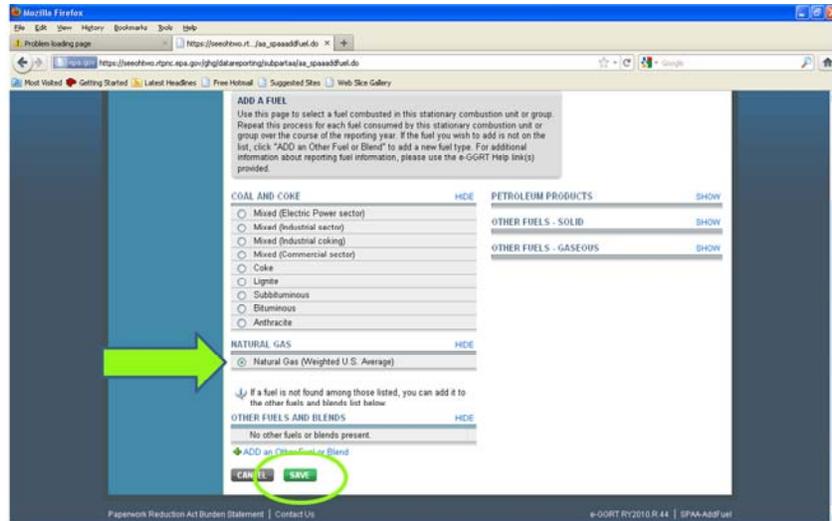
[ADD a Fuel](#)

[Subpart AA Overview](#)

* 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 Validator" link on the overview page. (Note: if there are no validation messages for this subpart you will not see this link).

This brings you to the screen where you will enter emissions information by fossil fuel type. Unlike the example for a chemical recovery unit or chemical recovery furnace, the rule does not require reporting of biogenic emissions for lime kilns. Biogenic emissions from conversion of CaCO_3 to CaO are included in the biogenic CO_2 estimates calculated for the chemical recovery furnace. In other words, you will only enter fossil fuel emissions information and, therefore, spent pulping liquor is not included on the pick list that follows. This is the reason for the note indicated by arrow #1. Arrow #2 indicates where you will click to add a fuel.

Adding Lime Kiln Emissions



After selecting the add Fuel link, you will open the pick list where you will select the fuel type. For this example, we will select natural gas and click the “save” button.

Adding Lime Kiln Emissions



Unit or Group Name: CRCU Demonstration

EMISSIONS CALCULATION PERIOD

Fuel (Fuel Type): Natural Gas (Weighted U.S. Average) (Natural Gas)

Calculation Methodology Start*
Date: 01/01/2010

Calculation Methodology End*
Date: 12/31/2010

CALCULATION METHODOLOGY

Indicate your calculation methodology for this fuel, for the Emissions Calculation Period specified

- Tier 1 (equations C-1 and C-8)
- Tier 1 (equations C-1a and C-8a)
For use with natural gas, when billing records are used to quantify usage, and consumption is expressed in units of therms
- Tier 1 (equations C-1b and C-8b)
For use with natural gas, when billing records are used to quantify usage, and consumption is expressed in units of mmbtu
- Tier 2 (equations C-2a and C-8a)
For use with any type of fuel listed in Table C-1, except for municipal solid waste (MSW)
- Tier 3 (equations C-5 and C-8)

After selecting the fuel type and clicking save, you will open a screen where you will enter the period during which the identified fossil fuel was used, indicated by the start and end dates shown (arrows #1 and #2), and identify the methodology/tier that will be used to calculate the fossil fuel emissions (arrow #3). The methodologies for calculating fossil fuel emissions are taken directly from subpart C of the rule, which is the subpart that applies to stationary combustion sources. Subpart C describes which tier is required to be used based on fuel type and size of the unit, which this webinar does not cover.

Adding Lime Kiln Emissions



After selecting and saving the fuel type, period of use and the methodology to be used to estimate emissions, you will return to data entry screen for the lime kiln unit. The fossil fuel data entered will appear in the grey box indicated on this screen and an “incomplete” status will indicate that the data entry is not complete. In order to enter the emissions data, click the “open” button indicated by the green arrow.

Adding Lime Kiln Emissions



FACILITY 44 (2010)
Subpart AA: Pulp and Paper Manufacturing
Subpart AA Overview » CRCU Demonstration » Lime Kiln » Fuel-specific Emissions

FUEL-SPECIFIC EMISSIONS
Use this page to enter the annual GHG emissions information for this fuel. For additional information about the data collected on this page, please use the e-GORT Help link(s) provided.

CONFIGURATION-FUEL-PERIOD
Unit or Group Name ID: CRCU Demonstration
Fuel (Fuel Type): Natural Gas (Weighted U.S. Average) (Natural Gas)
Reporting Period: 01/01/2010 - 12/31/2010

EQUATION C-1 SUMMARY AND RESULT
 $CO_2 = 1 \times 10^{-3} \times \text{Fuel} \times \text{HHV} \times \text{EF}$
Hover over an element in the equation above to reveal a definition of that element.

Annual CO₂ emissions from combustion of the specified fuel: (metric tons)
[Use Equation C-1/C-B spreadsheet to calculate](#)

This will open the screen where you will enter CO₂, CH₄ and N₂O emissions for the selected fossil fuel. Again, you have the option to use the calculation spreadsheet that is provided by clicking the link below the data entry field.

Adding Lime Kiln Emissions



EQUATION C-1 SUMMARY AND RESULT

$$CO_2 = 1 \times 10^{-3} \times \text{Fuel} \times \text{HHV} \times \text{EF}$$

Annual CO₂ emissions from combustion of the specified fuel: 5730 (metric tons) **1**

EQUATION C-8 SUMMARY AND RESULTS

$$CH_4 \text{ or } N_2O = 1 \times 10^{-3} \times \text{Fuel} \times \text{HHV} \times \text{EF}$$

Annual CH₄ emissions from combustion of the specified fuel: 0.11 (metric tons) **2**

Annual N₂O emissions from combustion of the specified fuel: 0.011 (metric tons) **3**

CO₂ EQUIVALENT EMISSIONS

CO₂ equivalent value for Annual CH₄ emissions: 2.3 (metric tons) **4**

CO₂ equivalent value for Annual N₂O emissions: 3.3 (metric tons) **5**

CANCEL SAVE

In addition to entering CO₂, CH₄ and N₂O emissions from fossil fuel combustion (arrows #1, #2, and #3), CO₂e for CH₄ and N₂O must also be entered (arrows #4 and #5). After completing these data fields, click “save”.

Adding a Lime Kiln Unit



AA - Mill 1 Test (2010)
Subpart AA: Pulp and Paper Manufacturing
Subpart Overview - Pulp Lime Kiln Test 1 - Lime Kiln

GHG DATA AND ASSOCIATED INFORMATION
Use this page to enter the GHG data required by Subpart AA. Please enter the information shown for this pulp mill time slice. For additional information about the data collected on this page, please use the e-GGRT Help link(s) provided.

Note: The following Fuel Emissions Information (fuels combusted by this reporting unit) section does not apply for spent pulping liquor (the primary fuel for chemical recovery combustion units and recovery furnaces).

FUEL EMISSIONS INFORMATION (fuels combusted by this reporting unit)

Fuel	Calculation Period	Methodology	Status	Delete
Natural Gas (Weighted U.S. Average)	01/01/2010 - 12/31/2010	Tier 1 (Equation C-1)	Complete	OPEN X

[ADD a Fuel](#)

[Subpart AA Overview](#)

¹A 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 on the overview page. (Note: if there are no validation messages for this subpart you will not see this link).

The fuel emissions information for the lime kiln unit is now complete. Clicking the “subpart AA overview” button returns us to the overview page.

Adding a Lime Kiln Unit



AA - Mill 1 Test (2010)
Subpart AA: Pulp and Paper Manufacturing
Subpart Overview

OVERVIEW OF SUBPART AA REPORTING REQUIREMENTS
Subpart AA requires affected facilities to report carbon dioxide (CO₂), nitrous oxide (N₂O), and methane (CH₄) emissions from chemical recovery furnaces at kraft and soda mills, chemical recovery combustion units at sulfate facilities and at stand-alone semichemical facilities and pulp mill lime kilns at kraft and soda facilities. First, use this page to identify each unit, furnace and/or kiln and identify any systems for adding makeup chemicals in the chemical recovery areas of chemical pulp mills. Then enter Greenhouse gas (GHG) data required by Subpart AA for each. For additional information about Subpart AA reporting, please use the e-GGRT Help link(s) provided.

EPA has proposed to defer collection of 2010 data elements used as inputs to emission equations for direct reporters. (See 75 FR 81360, published Dec. 27, 2010) E-GGRT currently reflects this proposal, and EPA will make any adjustments necessary to reflect the final rule.

Subpart AA: No Validation Messages

SUBPART AA SUMMARY INFORMATION FOR THIS FACILITY

Annual Steam Purchases (joules)	Annual Production of Pulp Products (metric tons)	Annual Production of Paper Products (metric tons)
20,000,000,000	365,000	3,000,000

MAKEUP CHEMICAL USAGE SUMMARY

Name/ID	Type	CO ₂ (metric tons)	Status	Delete
CAUST1	Make-up Chemical Use		5 Complete	OPEN X

UNIT AND FURNACE SUMMARY

Name/ID	Type	Biogenic CO ₂ (metric tons)	Status	Delete
RF3e_range	Chemical Recovery Furnace		5 Complete	OPEN X
Pulp Lime Kiln Test 1	Pulp Mill Lime Kiln	N/A	Complete	OPEN X

ADD a Unit or Furnace

The facility overview page now shows the data entered for the lime kiln unit.

Adding a Unit with CEMS



The screenshot shows the e-GRT web application interface. At the top, there is a navigation bar with the text "Then enter greenhouse gas (GHG) data required by Subpart AA for each. For additional information about Subpart AA reporting, please use the e-GRT Help link(s) provided." Below this, there is a "Subpart AA: No Validation Messages" notification. The main content area is divided into several sections:

- SUBPART AA SUMMARY INFORMATION FOR THIS FACILITY**: A table with three columns: Annual Steam Purchases (pounds), Annual Production of Pulp (metric tons), and Annual Production of Paper (metric tons). The values are 20,000,000, 365,000, and 3,000,000 respectively. An "OPEN" button is present.
- MAKEUP CHEMICAL USAGE SUMMARY**: A table with columns: Name ID, Type, CO₂ (metric tons), and Status. One entry is "Make-up Chemical Dema" with a value of 100,000 and status "Complete". An "OPEN" button is present.
- UNIT AND FURNACE SUMMARY**: A table with columns: Name ID, Type, Biogenic CO₂ (metric tons), Non-Biogenic CO₂ (metric tons), and Status. One entry is "ERCU Demonstration Chemical Recovery Combustion Unit" with values 5,730 and 5,730 and status "Complete". An "OPEN" button is present.
- UNIT AND FURNACE SUMMARY(UNITS AND FURNACES MONITORED BY CEMS)**: A table with columns: Name ID, Type, CO₂ (metric tons), CH₄ (metric tons), and N₂O (metric tons). The text below the table states "No units or furnaces have been added". A green arrow points to the "ADD a Unit or Furnace Monitored by CEMS" link.

At the bottom, there is a "Facility Overview" link and a footnote: "A status of 'incomplete' means that one or more required data elements are incomplete. For details, refer to the Data Completeness".

In the final part of this demonstration, we will add a unit with a CEMS. The first step is to click the “Add a Unit or Furnace monitored by CEMS”.

Adding Unit-level Information

A screenshot of the e-GGRT web application in a Mozilla Firefox browser. The browser address bar shows the URL: http://egret.sac.com/eg/04/statereporting/subpartaa/cecms.do?cecmsChoice=no. The page header includes the EPA logo and navigation tabs: HOME, FACILITY REGISTRATION, FACILITY MANAGEMENT, and DATA REPORTING. The main content area is titled "FACILITY 44 (2010) Subpart AA: Pulp and Paper Manufacturing" and includes a "Subpart Overview" link and a "New Unit" link. A section titled "CONTINUOUS EMISSIONS MONITORING SYSTEMS (CEMS)" contains instructions and a form. The form asks "Is this unit's emissions monitored using a CEMS?" with radio buttons for "Yes" and "No". A green arrow points to the "Yes" radio button. Below the form are "CANCEL" and "NEXT" buttons. The footer contains "Paperwork Reduction Act Burden Statement | Contact Us" and "e-GGRT RY2010.R.40 | SPAA(A)-2".

The next step is to indicate that the unit is monitored using a CEMS and click “next”.

Adding a Lime Kiln with CEMS



The screenshot shows a web browser window displaying the e-GGRT application. The page title is 'Subpart AA: Pulp and Paper Manufacturing'. The form is titled 'FURNACE, UNIT, KILN OR MAKEUP CHEMICAL SYSTEM INFORMATION'. It contains the following fields and options:

- UNIT INFORMATION:**
 - Name or ID ***: Text input field containing 'CEMS Demonstration' (40 characters maximum).
 - Description (optional)**: Text input field containing 'CEMS Demonstration'.
 - Type ***: Dropdown menu with 'Pulp Mill Lime Kiln' selected.
- CONTINUOUS EMISSIONS MONITORING:**
 - Is this unit's emissions monitored using a CEMS? ***: Radio button options for 'Yes' (selected) and 'No'.

At the bottom of the form, there are 'CANCEL' and 'SAVE' buttons. The 'SAVE' button is circled in green. The page footer includes 'Paperwork Reduction Act Burden Statement', 'e-GGRT RY2010.R.48 | SPAA(a)-3', and 'Done'.

You will then be required to provide information identifying the unit (arrow #1) and indicating the type of unit (arrow #2). Again, the fields marked with a red asterisk are required fields to proceed in e-GGRT. The description field is optional. You are also required to again indicate whether the unit is monitored by CEMS (arrow #3). After completing these fields, click save.

Adding Lime Kiln with CEMS



SUBPART AA SUMMARY INFORMATION FOR THIS FACILITY

Annual Steam Purchases (Gpcw)	Annual Production of Pulp Products (metric tons)	Annual Production of Paper Products (metric tons)
20,000,000,000	365,000	3,000,000

MAKEUP CHEMICAL USAGE SUMMARY

Name/ID	Type	CO ₂ (metric tons)	Status	Delete
Make-up Chemical Demo	Make-up Chemical Use	100,000	Complete	OPEN X

UNIT AND FURNACE SUMMARY

Name/ID	Type	Biogenic CO ₂ (metric tons)	Non-Biogenic CO ₂ (metric tons)	Status	Delete
CRCU Demonstration	Chemical Recovery Combustion Unit	5,700	5,700	Complete	OPEN X

UNIT AND FURNACE SUMMARY (UNITS AND FURNACES MONITORED BY CEMS)

Name/ID	Type	CO ₂ (metric tons)	CH ₄ (metric tons)	N ₂ O (metric tons)	Status	Delete
CEMS Demonstration	Pulp Mill Lime Kiln	N/A	N/A	N/A	Complete	OPEN X

CEMS MONITORING LOCATION SUMMARY

CML Name/Identifier	CML Configuration	Monitored Unit(s)	Total CO ₂ emissions (metric tons)	Status	Delete
No CEMS monitoring locations present					

We return to the facility overview slide where the basic information for the added CEMS unit is now included (arrow #1). The next step is to add emissions data, which is done by clicking “add a CEMS monitoring location” indicated by arrow #2 at the bottom of this slide.

Adding CEMS Unit-level Information



FACILITY 44 (2010)
Subpart AA:Pulp and Paper Manufacturing
Subpart AA Overview • **Add/Edit CEMS Monitoring Location**

CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) MONITORING LOCATION (CML) INFORMATION
Use this page to uniquely identify each CML and provide the annual GHG 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 CML. For additional information about the data collected on this page, please use the e-GORT Help link(s) provided.

CONFIGURATION

CEMS Monitoring Location Name/ID: CEMS Demonstration (40 characters maximum)
Description (optional):
Configuration Type: Select
Tier 4 Methodology Info: Single process/process unit exhausts to dedicated stack. Multiple processes/process units share common stack. Process/Stationary combustion units share common stack.

TIER 4 METHODOLOGY INFO

Calculation Methodology: [dropdown]
Calculation Methodology Start Date: [calendar]
Calculation Methodology End Date: 12/31/2010

The next screen will require that you enter information identifying and describing the CEMS monitoring location (arrow #1), which includes picking from a drop-down menu the type of configuration associated with the CML (arrow #2). This screen also requires that you enter the period during which the CEMS and respective calculation methodology was used, which is given by providing a start and end date (arrow #3 and #4).

Adding CEMS Unit-level Information



Scrolling further down this screen, you will see the other data fields. These include cumulative CO₂ emissions by quarter (arrow #1), total annual CO₂ mass emissions (arrow #2), total annual biogenic CO₂ mass emissions (arrow #3), and total annual non-biogenic CO₂ mass emissions (arrow #4).

Adding CEMS Unit-level Information



The screenshot shows a web browser window displaying the EPA's CEMS monitoring system. The page is titled "Adding CEMS Unit-level Information". It contains several input fields and sections:

- Total CH₄ emissions** (metric tons) - Arrow #1 points to the input field. Below it is a red arrow pointing to the text "Use Equation C-10 spreadsheet to calculate".
- Total N₂O emissions** (metric tons) - Arrow #2 points to the input field. Below it is a red arrow pointing to the text "Use Equation C-10 spreadsheet to calculate".
- ADDITIONAL EMISSIONS INFORMATION** section:
 - Total number of source operating hours in the reporting year** - Arrow #3 points to the input field.
 - The total operating hours in which a substitute data value was used in the emissions calculations for CO₂ concentration** - Arrow #4 points to the input field.
 - The total operating hours in which a substitute data value was used in the emissions calculations for stack gas flow rate** - Arrow #5 points to the input field.
 - 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)** - Arrow #6 points to the input field.
- CEMS MONITORING LOCATION PROCESS UNITS** section:
 - Process Unit Name Identifier:** A text area containing the message "There are no process units monitored by CEMS available for selection."
 - ADD/REMOVE a process unit that exhausts to this CEMS Monitoring Location** - Arrow #7 points to this link.
 - CANCEL** and **SAVE** buttons are located at the bottom of this section.

On this same screen, you will enter calculated CH₄ and N₂O emissions from fossil fuel combustions (arrows #1 and #2). These emissions are calculated following Subpart C equations, which are provided in the calculation spreadsheets. Following this, you will enter total number of source operating hours in the reporting year (arrow #3) and the total number of hours in which a substitute data value was used in the emission calculations for CO₂ concentration (arrow #4), stack gas flow rate and moisture content (arrows #5 and #6). The final step is to "Add/Remove a process unit that exhausts to this CML". By clicking this link where shown (arrow #7).

Adding CEMS Unit-level Information

A screenshot of a web browser displaying the EPA e-GGRT (Electronic Greenhouse Gas Reporting Tool) interface. The page title is "Subpart AA: Pulp and Paper Manufacturing". Below the title, there is a section titled "IDENTIFY PROCESS UNIT(S)" with instructions: "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." Below this, there is a form field labeled "PROCESS UNIT RF" with a green arrow pointing to it. The field contains the text "Is this process unit monitored by the CEMS Monitoring Location?" followed by a checkbox and the text "(check if true)". At the bottom of the form are "CANCEL" and "SAVE" buttons. The browser's address bar shows the URL "http://egrt.epa.gov/egrt/submit/add_cems_processunits.do".

The purpose of this screen is to indicate whether the process unit is monitored by the CML.

Adding CEMS Unit-level Information



Total NO_x emissions (metric tons)
Use Equation C-10 spreadsheet to calculate

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

ADD/REMOVE a process unit that exhausts to this CEMS Monitoring Location

After completing this step, you will return to main information page for the CEMS monitoring location, where you will see the process unit indicated by the green arrow, if the box was checked.

Subpart AA Overview



The screenshot displays the e-GGRT Subpart AA Overview page. At the top right, a green checkmark icon is next to the message "Subpart AA: No Validation Messages". Below this, the page is divided into several summary sections:

- SUBPART AA SUMMARY INFORMATION FOR THIS FACILITY:** A table with columns for Annual Stream Purchases (20,000,000), Annual Production of Pulp Products (305,000), and Annual Production of Paper Products (3,000,000). A "OPEN" button is visible.
- MAKEUP CHEMICAL USAGE SUMMARY:** A table with columns for Name/ID, Type, CO₂ (metric tons), and Status. One entry is shown: CALIST1, Make-up Chemical Use, 100,000, Complete. A "OPEN" button is visible.
- UNIT AND FURNACE SUMMARY:** A table with columns for Name/ID, Type, Biogenic CO₂ (metric tons), Non-Biogenic CO₂ (metric tons), and Status. One entry is shown: RF3n_range, Chemical Recovery Furnace, 5,730, 730, Complete. A "OPEN" button is visible.
- UNIT AND FURNACE SUMMARY (UNITS AND FURNACES MONITORED BY CEMS):** A table with columns for Name/ID, Type, CO₂ (metric tons), CH₄ (metric tons), and N₂O (metric tons). One entry is shown: RF, Chemical Recovery Furnace, 100,000, 500, 300, Complete. A "OPEN" button is visible.
- CEMS MONITORING LOCATION SUMMARY:** A table with columns for CML Name/Identifier, CML Configuration, Monitored Unit/ID, Total CO₂ emissions (metric tons), Status, and Delete.

This brings us to conclusion of the subpart AA demonstration. When you have completed entering data for all of the subpart AA units, you will see the data summarized on the subpart AA overview page. At this point, you will see if there are any potential reporting errors based on the validation message at the top right-hand corner of the screen and status messages provided for each unit.

Facility Overview



AA - MIB 1 Test (2010)

e-GGRT Greenhouse Gas Data Reporting

Select Facility - Facility or Supplier Overview

FACILITY OR SUPPLIER OVERVIEW
This page allows you to add the source and/or supplier categories for which your facility or supplier will be reporting, then to access those data reporting screens using the OPEN buttons.
After data reporting is complete, you can initiate the annual report review and submission process from this page by using the SUBMIT button (or RESUBMIT for subsequent submissions if needed).
Facility's GHG Reporting Method: Data upload via XML (Change)

REPORT DATA
Add Reporting Source or Supplier Category Validation Messages? Submit Reporting

Subpart AA-General Information	None	OPEN
Subpart AA-Pulp and Paper Manufacturing	View Messages	OPEN

ADD or REMOVE Subparts

If all subparts are completed and Validation Messages addressed to your satisfaction, you are ready to prepare and submit an Annual Report.

SUBMIT ANNUAL REPORT

Report	Uploaded File Name	Status	Sign Date	Submitted Date	View
					1/2/2012 12:10:40 PM

Done

CO₂ equivalent emissions (excluding assigned from source categories) (metric tons): 1,178,158
Excluded CO₂ emissions from source categories (metric tons): 106,730
CO₂ equivalent quantity from supplier categories (metric tons): 0
VIEW GHG DETAILS

Finally, on the facility overview screen you will see if there any remaining validations messages before adding new subparts or generating and submitting your report.



Emission Roll-ups

Emission Roll-ups



- E-GGRT automatically calculates emissions totals for each subpart and aggregates the subpart totals into facility or supplier totals
- E-GGRT satisfies the reporting requirements in 40 CFR 98.3(c)(4)(i) – (iii) and (c)(12) for facilities and 98.3(c)(5) for suppliers.
- Annual emissions are calculated from each applicable subpart, for each of the following GHGs (in metric tons of each gas)
 - Biogenic CO₂*
 - CO₂ (excluding biogenic CO₂)
 - CH₄
 - N₂O
 - Each fluorinated GHG
- The subpart totals are rolled-up into the following facility totals
 - Total CO₂ equivalent for all sources and all GHGs with the exception of biogenic CO₂
 - Biogenic CO₂ from all sources*

*The roll-up calculation for supplier categories is the same as for direct emitters, but no distinction is made for biogenic CO₂

Emission Roll-ups



- If certain reporting elements are left blank, the roll-ups may not be performed correctly
- E-GGRT does not double count emissions within each subpart
- Some required reporting fields are not used in the roll-up calculations, but you still need to enter information for these fields
- Roll-ups are calculated independently for each subpart

Some Useful Terminology



- Total CO₂ emissions
 - Measured or calculated value of CO₂ that includes both biogenic and non-biogenic emissions
- Biogenic CO₂ emissions
 - CO₂ emissions from biomass fuels
 - Biogenic portion of CO₂ from fuels with a fossil and biomass component (i.e. MSW and tires)
- Non-Biogenic CO₂ emissions
 - CO₂ emissions from fossil fuels
 - Sorbent CO₂
 - Process CO₂
 - Fossil fuel fraction of CO₂ from fuels with a fossil and biomass component (i.e. MSW and tires)
- Fossil fuel CO₂ emissions
 - CO₂ emissions from fossil fuels
 - Fossil fuel portion of CO₂ from fuels with a fossil and biomass component (i.e. MSW and tires)

Subpart AA: Questions?



- e-GGRT Information & Help
 - <http://www.ccdsupport.com>
 - Email: GHGreporting@epa.gov
- GHG Reporting Program Information & Help
 - www.epa.gov/ghgreporting/reporters/index.html
 - Email: ghgreporting@epa.gov
- Read more about XML Upload Option
 - http://www.epa.gov/ghgreporting/reporters/datasystem/e-ggrrt_xml.html
- Other Subpart AA Resources
 - <http://www.epa.gov/ghgreporting/reporters/subpart/aa.html>

60

This concludes our training session for today. We hope this overview has given you a better understanding of how to navigate and enter information using the e-GGRT reporting tool.

Here are some additional links.