Subpart UU - Injection of Carbon Dioxide

A printer-friendly version (pdf) (16 pp, 1.94MB) of GHG reporting instructions for this subpart

Please select a help topic from the list below:

- Using e-GGRT to Prepare Your Subpart UU Report
  - Subpart UU Annual Mass of CO2 Received Information
  - Subpart UU Facility Information
  - Subpart UU Flow Meters and Containers
  - Subpart UU Validation Report

- Subpart UU Rule Guidance
- Subpart UU Rule Language (eCFR)

Additional Resources:

- Part 98 Terms and Definitions
- Frequently Asked Questions (FAQs)
- Subpart UU Webinar Slides

Using e-GGRT to Prepare Your Subpart UU Report

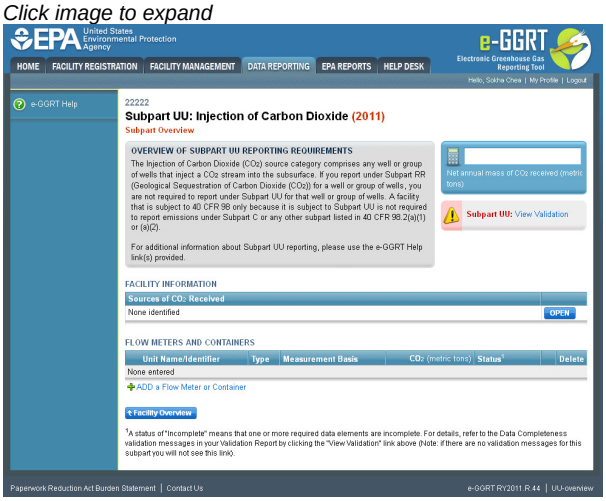
This page provides an overview of topics that are central to Subpart UU reporting. This information will be entered starting from the e-GGRT Subpart UU Overview web form shown below. Each topic represents a key web form where you need to enter information:

- Subpart UU Facility Information
- Subpart UU Flow Meters and Containers
- Subpart UU Annual Mass of CO_2 Received Information
- Subpart UU Validation Report

If you previously reported for Reporting Year (RY) 2011, the Agency has carried some of your RY2011 data forward and entered it in your RY2012 forms to reduce the reporting burden. It is still your responsibility to review and ensure that all of 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 RY2012 forms help content.

The Injection of Carbon Dioxide (CO_2) source category comprises any well or group of wells that inject a CO_2 stream into the subsurface. If you report under subpart RR (Geologic Sequestration of Carbon Dioxide (CO_2)) for a well or group of wells, you are not required to report under subpart UU for that well or group of wells. A facility that is subject to 40 CFR 98 only because it is subject to subpart UU is not required to report emissions under subpart C or any other subpart listed in 40 CFR 98.2(a)(1) or (a)(2).

Click image to expand



Subpart UU Facility Information

Subpart UU requires you to identify each source of the CO_2 received at your facility during the reporting year. You may enter "unknown" if the source is not known.

For more information and guidance on this topic please see Subpart UU Facility Information.

Back to Top

Subpart UU Flow Meters and Containers

For each receiving flow meter or container at your facility, Subpart UU requires you to report the following information:

- A unique name or identifier, plus an optional description for the flow meter or container (see also About Unique Unit Names).
- Type of unit (flow meter or container)
- An indication whether the flow meter or container measurement type is volumetric or mass-based

For more information and guidance on this topic please see Subpart UU Flow Meters and Containers

Back to Top

Subpart UU Annual Mass of CO2 Received Information

For each receiving flow meter or container at your facility, Subpart UU requires you to report basic information about:

1. The flow through the receiving flow meter or container in each quarter
2. The flow through the receiving flow meter or container that is redelivered to another facility without being injected into your well in each quarter
3. The CO2 concentration in the flow or in the container in each quarter

For more information and guidance on this topic please see Subpart UU Annual Mass of CO2 Received Information

Back to Top

Subpart UU 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 three 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.
- Screen Errors: Critical errors which prevent the acceptance of the reported data. Typically these will appear on the upload page.

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.

For more information and guidance on this topic please see Subpart UU Validation Report

Back to Top

Subpart UU Annual Mass of CO2 Received Information

For each receiving flow meter or container at your facility, Subpart UU requires you to report basic information about:

1. The flow through the receiving flow meter or container in each quarter
2. The flow through the receiving flow meter or container that is redelivered to another facility without being injected into your well in each quarter
3. The CO2 concentration in the flow or in the container in each quarter

The screen you will be taken to depends on whether you chose the measurement type for that flow meter or container to be mass or volumetric.

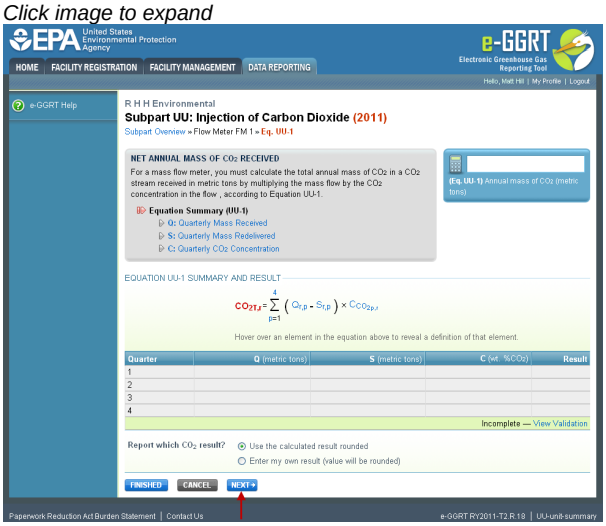
- Instructions for entering data for mass flow meters
- Instructions for entering data for volumetric flow meters

Please note, the content on these pages provides detailed instructions for entering information on CO_2 that is received by mass or volumetric flow meters. Data entry for the CO_2 received in containers is similar to the data entry for the CO_2 received through flow meters and is not described

here.

To Enter Quarterly Mass Received Information Begin by selecting 'NEXT'

Click image to expand

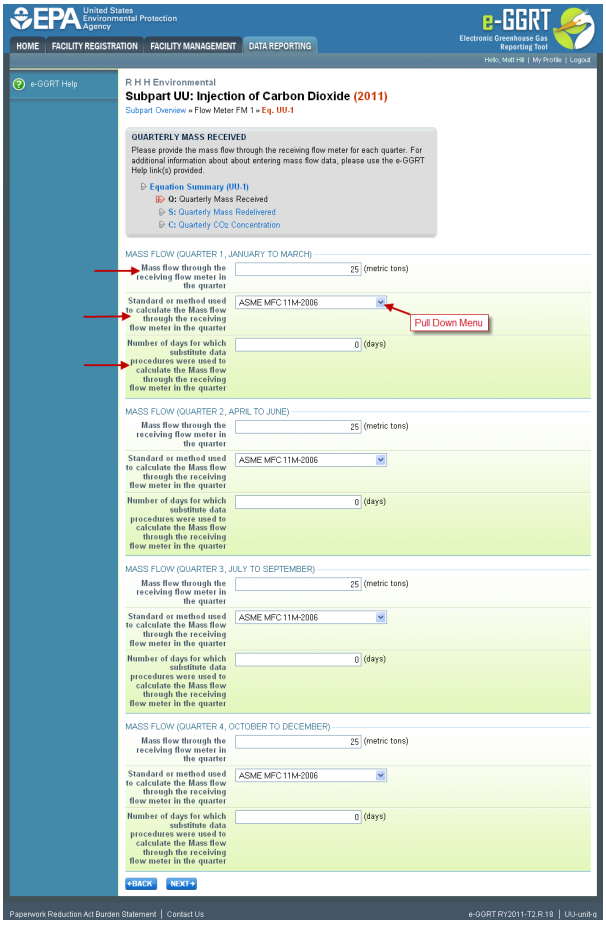


Entering Quarterly Mass Received Information

Subpart UU requires you to report the following data:

- The flow through the receiving mass flow meter in each quarter
- The standard or method used to calculate the flow through the receiving mass flow meter in each quarter from the following options:
  - ASME MFC 11M-2006
  - ISO 14511-2001
  - Sales contract, invoices, or manifests
  - Other (specify)
- The number of times of days in the quarter for which substitute data procedures were used to calculate the flow through the receiving mass flow meter in each quarter.
- If the mass flow of CO_2 received was zero for one or more quarters during the reporting year, enter “0” for the mass flow received for the quarter. The standard or method used and the number of days substitute data were used do not have to be reported if the mass flow received for the quarter is zero.

Click image to expand

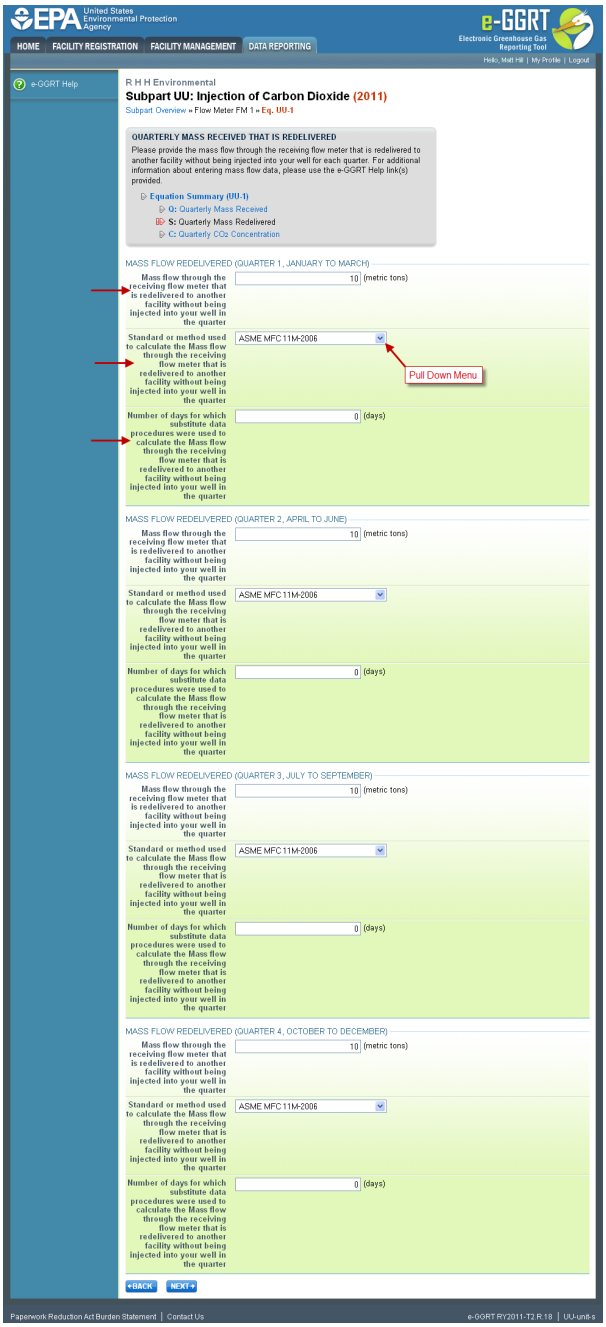


Entering Quarterly Mass Received That Is Redelivered Information

Subpart UU requires you to report the following data:

- The mass flow through the receiving flow meter that is redelivered to another facility without being injected into your wells in each quarter.
- The standard or method used to calculate the mass flow through the receiving flow meter that is redelivered to another facility without being injected into your well in each quarter from the following options:
    - ASME MFC 11M-2006
    - ISO 14511.2001
    - Sales contract, invoices, or manifests
    - Other (specify)
- The number of days in the quarter for which substitute data procedures were used to calculate the flow through the receiving mass flow meter that is redelivered to another facility without being injected into your well in each quarter.
- If the mass flow of CO_2 redelivered was zero for one or more quarters during the reporting year, enter “0” for the mass flow redelivered for the quarter. The standard or method used and the number of days substitute data were used do not have to be reported if the mass flow redelivered for the quarter is zero.

Click image to expand

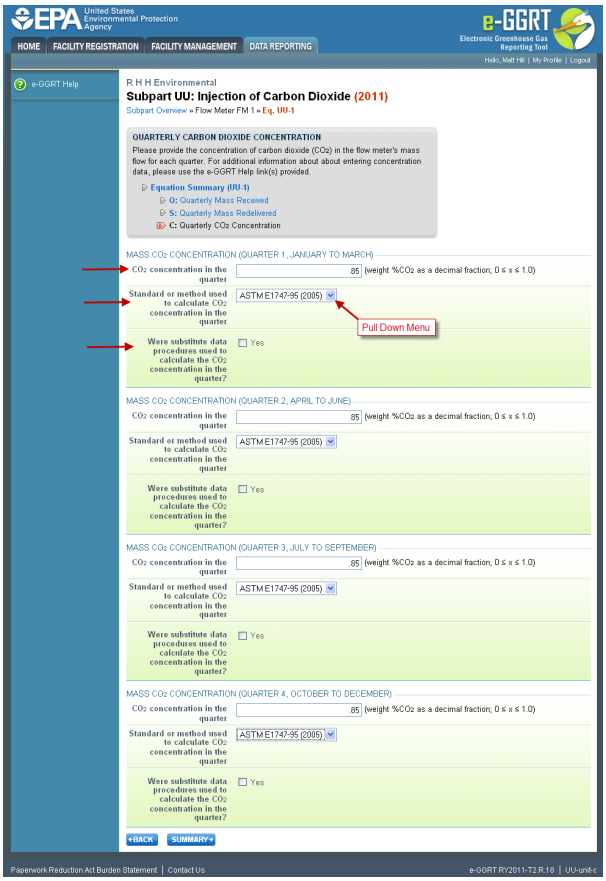


Entering Quarterly Carbon Dioxide Concentration

Subpart UU requires you to report the following data:

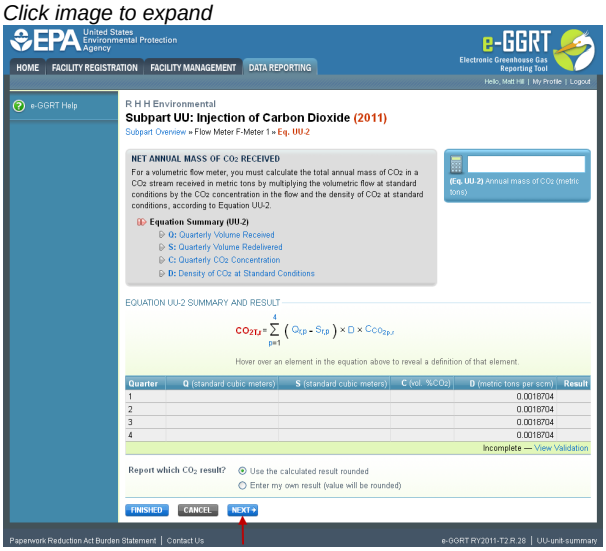
- The CO_2 concentration in the flow in each quarter for each mass flow meter, reported in decimal form between 0 and 1.
- The standard or method used to calculate the concentration in each quarter from the following options:
  - ASTM E1747 -95 (2005)
  - ASTM D1945-03 (2010)
  - ASTM D1946 -90
  - GPA 2261
  - GPA 2177-03
  - Sales contract
  - Other (specify)
- If missing data procedures were used to estimate CO_2 concentration for the quarter.

Click image to expand



To Enter Quarterly Volume Received Information Begin by selecting 'NEXT'

Click image to expand



Entering Quarterly Volume Received Information

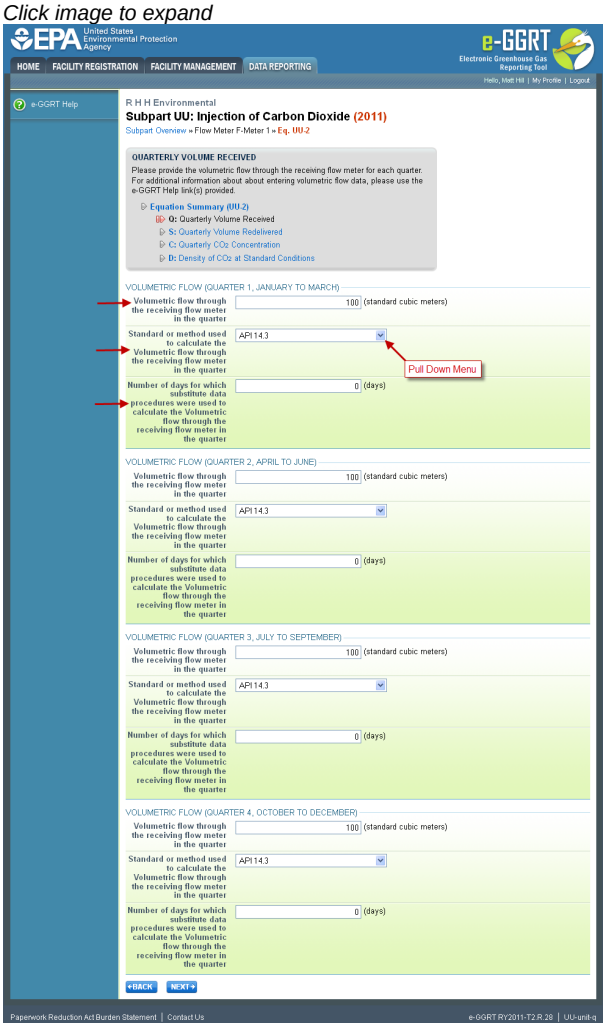
Subpart UU requires you to report the following data:

- The flow through the receiving volumetric flow meter in each quarter
- The standard or method used to calculate the flow through the receiving volumetric flow meter in each quarter from the following options:
  - AGA Report #3
  - AGA Report #8
  - API 21.1
  - API 14.3
  - ASME MFC 12M-2006
  - ASME MFC 3M-2004

    - ASME MFC 4M-1986
    - ASME MFC 6M-1998
    - Sales contract, invoices, or manifests
    - Other (specify)
- The number of days in the quarter for which substitute data procedures were used to calculate the flow through the receiving volumetric flow meter in each quarter.
- If the flow of CO_2 received was zero for one or more quarters during the reporting year, enter “0” for the flow received for the quarter. The standard or method used and the number of days substitute data were used do not have to be reported if the mass flow received for the quarter is zero.

By default, e-GGRT uses a constant for the density of CO_2 at standard temperature and pressure (STP).

Click image to expand



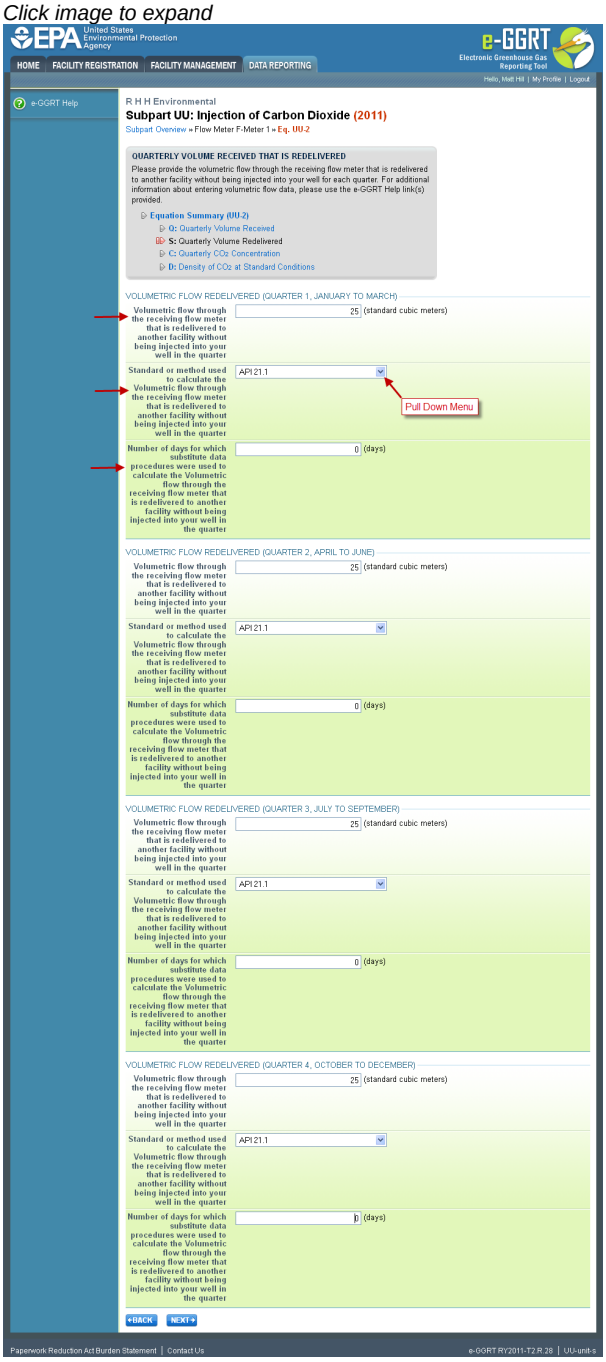
Entering Quarterly Volume Received That Is Redelivered Information

Subpart UU requires you to report the following data:

- The flow through the receiving volumetric flow meter that is redelivered to another facility without being injected into your wells in each quarter.
- The standard or method used to calculate the flow through the receiving volumetric flow meter that is redelivered to another facility without being injected into your well in each quarter from the following options:
    - AGA Report #3
    - AGA Report #8
    - API 21.1
    - API 14.3
    - ASME MFC 12M-2006
    - ASME MFC 3M-2004
    - ASME MFC 4M-1986
    - ASME MFC 6M-1998
    - Sales contract, invoices, or manifests
    - Other (specify)

- The number of days in the quarter for which substitute data procedures were used to calculate the flow through the receiving volumetric flow meter that is redelivered to another facility without being injected into your well in each quarter.
- If the flow of CO_2 redelivered was zero for one or more quarters during the reporting year, enter “0” for the mass flow redelivered for the quarter. The standard or method used and the number of days substitute data were used do not have to be reported if the flow redelivered for the quarter is zero.

Click image to expand



Entering Quarterly Carbon Dioxide Concentration

Subpart UU requires you to report the following data:

- The CO_2 concentration in the flow in each quarter for each volumetric flow meter, reported in decimal form between 0 and 1.
- The standard or method used to calculate the concentration in each quarter from the following options:
  - ASTM E1747 -95 (2005)
  - ASTM D1945-03 (2010)
  - ASTM D1946 -90
  - GPA 2261
  - GPA 2177-03

- Sales contract
- Other (specify)

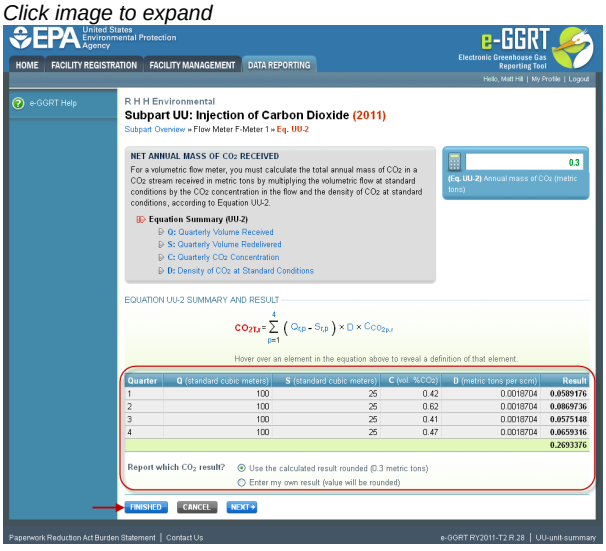
- If missing data procedures were used to estimate CO_2 concentration for the quarter.

Click image to expand

Select 'SUMMARY'to view a summary of the entered quarterly information. The screen shot for CO_2 received by mass flow meter is shown here.

Select “Use the calculated result rounded” to report the amount of CO_2 as calculated by e-GGRT from the data entered into e-GGRT or “Enter my own result (value will be rounded)” to report the amount of CO_2 as calculated by you and not automatically calculated by e-GGRT.

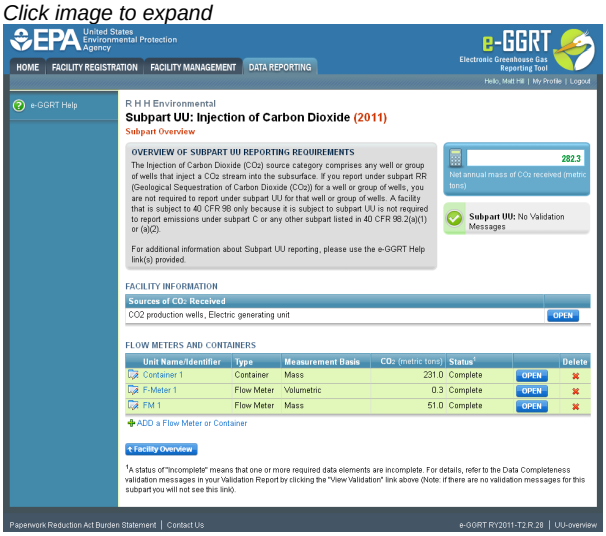
Click image to expand



Select 'FINISHED'. e-GGRT will return to the subpart UU Overview screen.

From this page, check to make sure the status of all meters and containers is “complete”. If not, open the “incomplete” flow meter or container and fill out the missing information.

Click image to expand



Subpart UU Facility Information

This page provides a description of how to enter Subpart UU facility information about this facility.

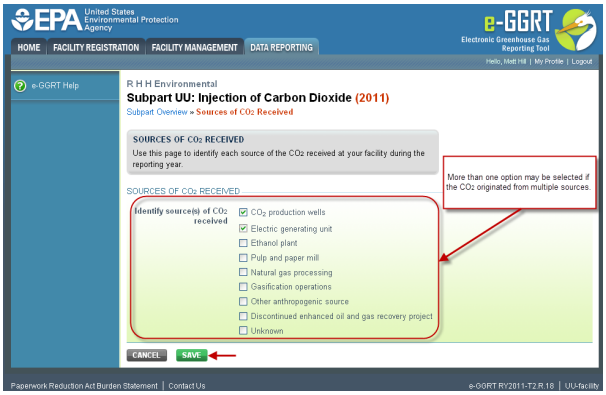
Adding or Updating Sources of CO_2 Received for this facility

To add or update sources of CO_2 received, locate the FACILITY INFORMATION table on the Subpart UU Overview page and click OPEN.

Click image to expand

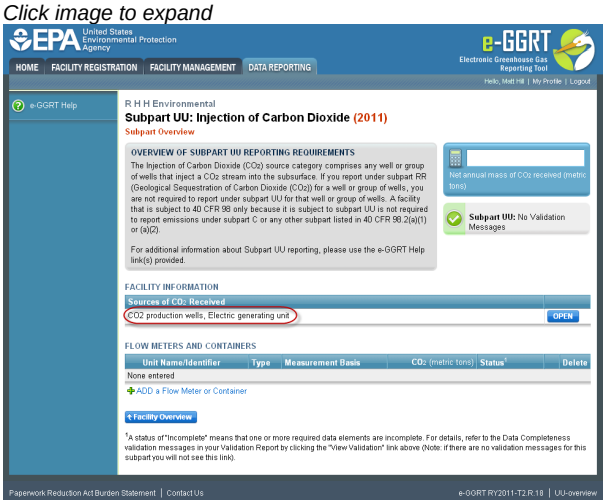
Select the source(s) of CO_2 received from the options listed. More than one option may be selected if the CO_2 originated from multiple sources. If the source of the CO_2 is not known, “unknown” should be selected.

Click image to expand



Select 'SAVE'. e-GGRT returns to the subpart UU Overview screen

Click image to expand



Subpart UU Flow Meters and Containers

This page provides step-by-step instructions on how to enter and update Subpart UU flow meter or container information. Use this page to uniquely identify each receiving flow meter or container.

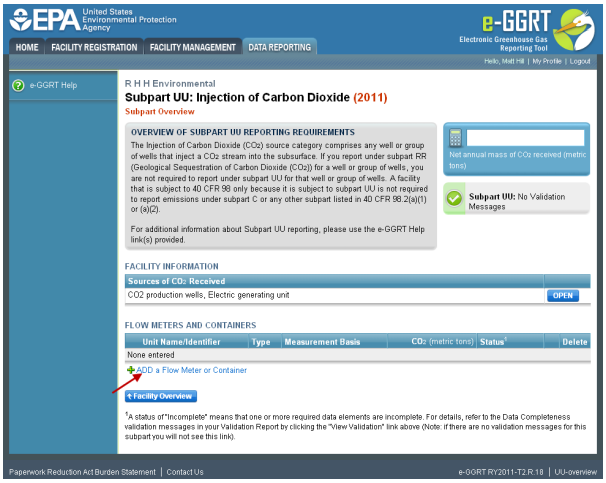
For each receiving flow meter or container at your facility, Subpart UU requires you to report the following information:

- A unique name or identifier, plus an optional description for the flow meter or container (see also About Unique Unit Names).
- Type of unit (flow meter or container)
- An indication whether the flow meter or container measurement type is volumetric or mass-based

Step 1: Add a unit

Click on Flow Meter or Container

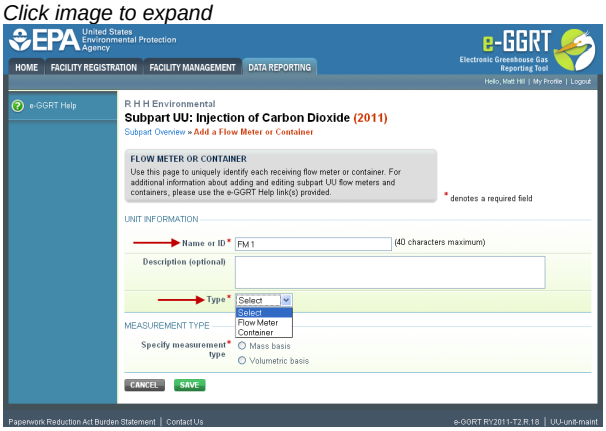
Click image to expand



Step 2: Enter unit information

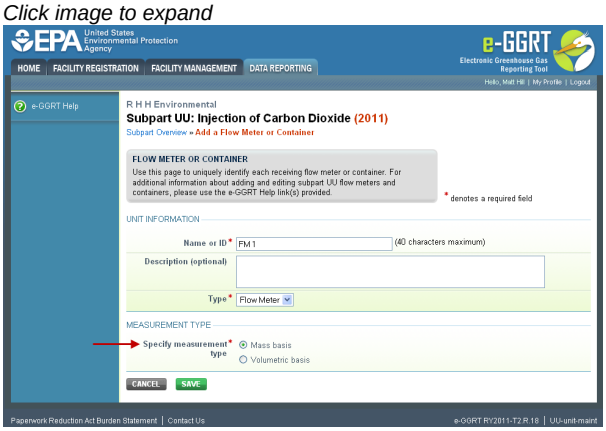
Enter the unit name, unit description (optional), and select the unit type (flow meter or container) from the drop down menu. Each flow meter and each container in which CO_2 was received must be entered separately with a unique unit name/identifier.

Click image to expand



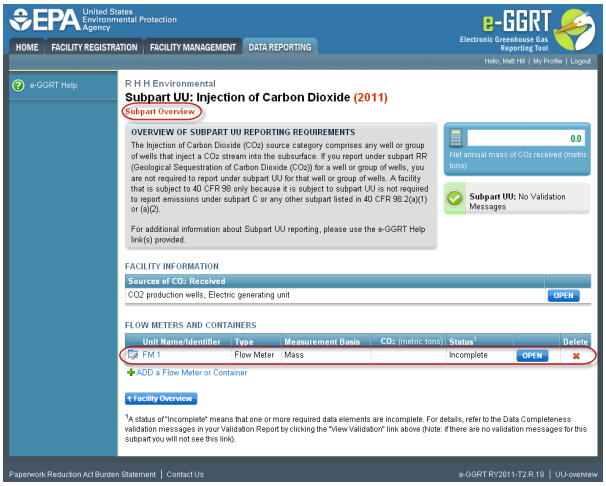
Indicate whether the flow meter or container measurement type is volumetric or mass-based

Click image to expand



Select 'SAVE'. e-GGRT returns to the subpart UU Overview screen

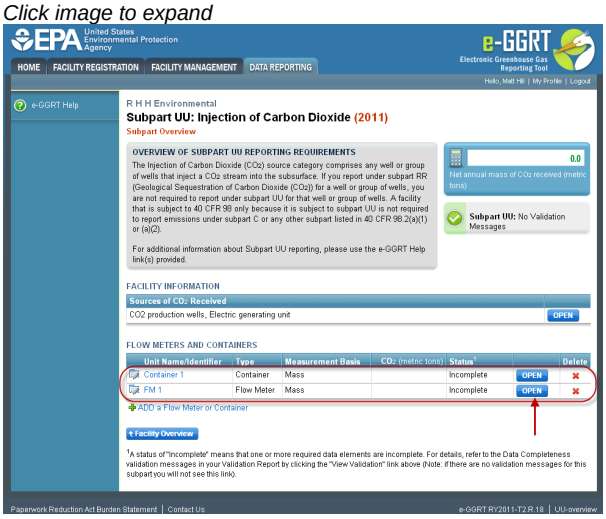
Click image to expand



Repeat steps 1 and 2 to enter additional flow meters or containers. From the subpart UU overview page, you can continue to add flow meters or containers, or start adding information for specific flow meters or containers. The status of the flow meter or container will be incomplete until this data is completely entered.

To enter CO_2 received data, select “open” to the right of the flow meter or container name in the FLOW METERS AND CONTAINERS table.

Click image to expand



Subpart UU 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 three 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.
- Screen Errors: Critical errors which prevent the acceptance of the reported data. Typically these will appear on the upload page.

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.

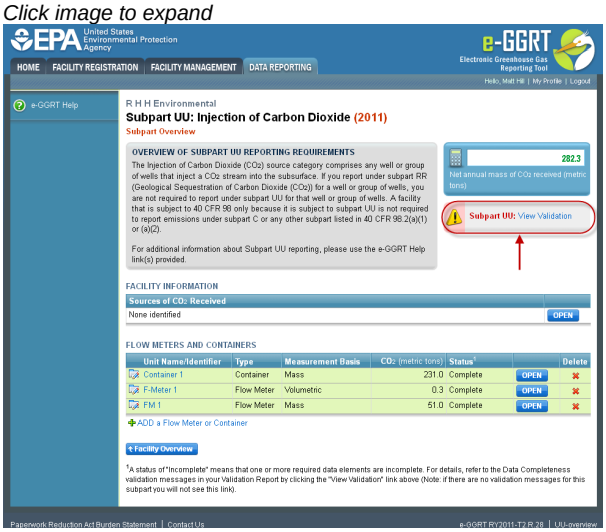
The validation notification tile, located near the top-right of the Subpart Overview page for each subpart, indicates whether validation errors are detected by e-GGRT for the active subpart.

Validation Notification Tile	Indicated Status

	e-GGRT detects no validation errors
	e-GGRT detects missing or invalid data that should be reviewed by the user, and as appropriate, addressed

To open the Subpart Validation Report, from the Subpart Overview page, click the link near the top-right of the screen titled "Subpart: View Validation".

Click image to expand

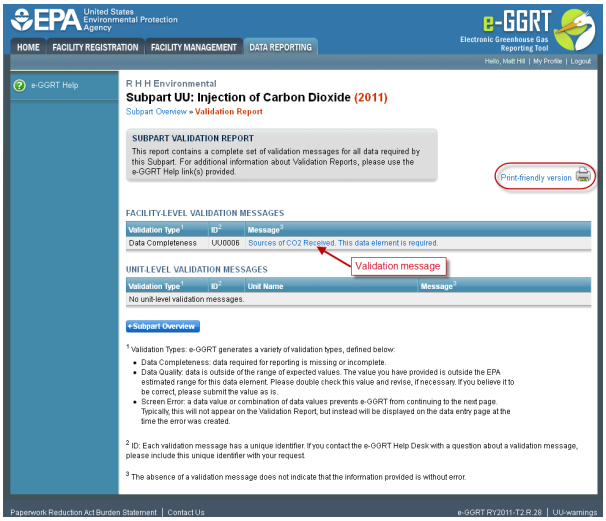


An example of a validation report typical of validation for all reporting forms is presented below. Please note that each validation report include four columns: Validation Type, ID, Details, and Message.

- **Validation Type:** Identifies the type of validation warning including data completeness, data quality, or screen errors as described on the screen snap below. Please note that Screen Errors only appear on the validation report for XML Upload users because, for reporting form users, screen errors prevent reporting form upload and must be correct prior to a successful upload of the reporting form.
- **Validation ID:** Each validation rule has a unique validation id or number. Please note that a single validation ID may be reported for multiple items or rows within your reporting form and includes a letter prefix which corresponds to the subpart.
- **Validation Details:** Identifies the specific item, row, or data element which is generating a validation issue. This columns use varies by subpart but in general it identifies the page or table name as the ID Type, and the specific field or column in which the issue occurred as Data Object Type, the specific data element or table row in which the issue occurred as ID Value. The name of the reporting form file in which the error occurred may also presented for those subparts or facilities which have uploaded of multiple reporting forms.
- **Validation Message:** Describes the nature of the error or validation issue.

To correct a validation issue, you must correct your reporting form on your local computer and re-generate, certify and submit a corrected version of the reporting form.

Click image to expand



Each validation message has a unique identifier. If you contact the e-GGRT Help Desk with a question about a validation message, please include this unique identifier with your request.

You may view a Print-friendly version of this report by clicking on the link titled Print-friendly version, located on the right side of the Validation Report.

See also

Screen Errors