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# 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<sub>2</sub> 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).



**Subpart UU Facility Information** 

Subpart UU requires you to identify each source of the CO<sub>2</sub> 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
- 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 guarter

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<sub>2</sub> that is received by mass or volumetric flow meters. Data entry for the CO<sub>2</sub> received in containers is similar to the data entry for the CO<sub>2</sub> received through flow meters and is not described

here.

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

Agency	itates nental Protection		e-GGRT 🔎
DME FACILITY REGIST	Electronic Greenhouse Gas Reporting Tool		
			Hello, Mett Hill   My Profile   Lo
	R H H Environmental Subpart UU: Injection of Ca Subpart Overview » Flow Meter FM 1 » Eq. (	rbon Dioxide (2011) <sup>90-1</sup>	
	NET ANNUAL MASS OF CO2 RECEIVED For a mass flow meter, you must calculat stream received in metric tons by multiply concentration in the flow , according to Ex	) e the total annual mass of CO2 in a CO2 ing the mass flow by the CO2 quation UU-1.	(Eq. UU-1) Annual mass of CO2 (metric tons)
	Description Summary (UU-1)	n	
	EQUATION UU-1 SUMMARY AND RESULT $A = \frac{4}{CO_{2T,r}} = \sum_{\mu=1}^{2}$	$\left( \begin{array}{c} Q_{r,p} = S_{r,p} \end{array} \right) \times C_{CO_{2p,r}}$	
	Hover over a	n element in the equation above to reveal a	definition of that element.
	Quarter Q (met 1 2 3	ric tons) S (metric tons)	C (wt. %CO2) Res
	4		Incomplete Manufalidat
			incomplete — view validat
	Report which CO <sub>2</sub> result?  O Use the	calculated result rounded y own result (value will be rounded)	

### **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<sub>2</sub> 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.

Agency			Electronic Greenhouse Gas
FACILITY REGISTRA	ATION FACILITY MANAGEMEN	T DATA REPORTING	Reporting Tool Holo, Matt Hill   My Profile
GRT Help	R H H Environmental Subpart UU: Injection Subpart Overview + Flow Meter	on of Carbon Dioxide (2011) rFM 1 # Eq. UU-1	
	OUARTERLY MASS RECEF Please provide the mass flow additional information about Help link(s) provided. De Quanterly Mass S: Quarterly Mass D: C: Quarterly CO21	VED through the receiving flow meter for each quart about entering mass flow data, please use the e- IIU-1) Received Redetived Concentration	IF. For GGGRT
	MASS FLOW (QUARTER 1. J	ANUARY TO MARCHI	
—	Mass flow through the receiving flow meter in the quarter	25 (metric ton	s)
	Standard or method used to calculate the Mass flow through the receiving	ASME MFC 11M-2006	
	flow meter in the quarter Number of days for which	0 (days)	Puil Down Menu
	procedures were used to calculate the Mass flow through the receiving flow meter in the quarter		
	MASS FLOW (QUARTER 2, A	PRIL TO JUNE)	
	Mass flow through the receiving flow meter in the quarter	25 (metric ton	s)
	Standard or method used to calculate the Mass flow through the receiving flow meter in the quarter	ASME MFC 11M-2006	
	Number of days for which substitute data procedures were used to calculate the Mass flow through the receiving flow meter in the quarter	(days)	
	MASS FLOW (QUARTER 3, J	ULY TO SEPTEMBER)	
	Mass flow through the receiving flow meter in the quarter	25 (metric ton	s)
	Standard or method used to calculate the Mass flow through the receiving flow meter in the guarter	ASME MFC 11M-2006	
	Number of days for which	(days)	
	procedures were used to calculate the Mass flow through the receiving flow meter in the quarter		
	MASS FLOW (QUARTER 4, 0	CTOBER TO DECEMBER)	
	Mass flow through the receiving flow meter in the quarter	25 (metric ton	8)
	Standard or method used to calculate the Mass flow through the receiving flow meter in the quarter	ASME MFC 11M-2006	
	Number of days for which substitute data procedures were used to calculate the Mass flow through the receiving flow meter in the quarter	0 (days)	
	ADACK NEVTA		

## **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<sub>2</sub> 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.

	ates nental Protection		e-GGRT 🔑
HOME FACILITY REGISTR	ATION FACILITY MANAGEMENT	DATA REPORTING	Electronic Greenhouse Gas Reporting Tool Helio, Midt Hill   My Profile   Logout
😧 e-GGRT Help	R H H Environmental Subpart UU: Injectio Subpart Overview + Flow Meter	on of Carbon Dioxide (2011) FM 1 = Eq. UU-1	reconserve ( m) reverse ( cogoo
	OUARTERLY MASS RECEIV Please provide the mass flow another facility without being information about entering ma	TED THAT IS REDELIVERED through the receiving flow meter that is redelivered to injected into your well for each quarter. For additional iss flow data, please use the e-GGRT Help link(s)	
	provided.	U-1) Received	
	B S: Quarterly Mass C: Quarterly CO2 C	Redelivered	
	MASS FLOW REDELIVERED Mass flow through the receiving flow meter that	(QUARTER 1, JANUARY TO MARCH) 10 (metric tons)	
	facility without being injected into your well in the quarter		
	Standard or method used to calculate the Mass flow through the receiving flow meter that is redelivered to another facility without being	ASME MFC 11M-2006	Down Menu
	injected into your well in the quarter Number of days for which	0 (days)	
	substitute data procedures were used to calculate the Mass flow through the receiving flow meter that is redelivered to another		
	facility without being injected into your well in the quarter		
	MASS FLOW REDELIVERED Mass flow through the receiving flow meter that is redelivered to another facility without being injected into your well in	(QUARTER 2, APRIL TO JUNE) 10 (metric tone)	
	the quarter Standard or method used to calculate the Mass flow through the receiving flow meter that is redelivered to another	ASME MFC 11M-2006	
	facility without being injected into your well in the quarter	a (dave)	
	substitute data procedures were used to calculate the Mass flow through the receiving flow meter that is redelivered to another facility without being injected into your well in the quarter	0 (0959)	
	MASS FLOW REDELIVERED	(QUARTER 3, JULY TO SEPTEMBER)	
	Mass flow through the receiving flow meter that is redelivered to another facility without being injected into your well in the quarter	10 (metric tons)	
	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	ASME MFC 11M-2006	
	The quarter Number of days for which substitute data procedures were used to calculate the Mass flow through the receiving flow meter that is redelivered to another facility without being injected into your well in	(days)	
	the quarter MASS FLOW REDELIVERED Mass flow through the receiving flow meter that is redelivered to another	(QUARTER 4, OCTOBER TO DECEMBER) 10 (metric tone)	
	facility without being injected into your well in the quarter		
	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	ASME MFC 11M-2006	
	the quarter Number of days for which substitute data	0 (days)	
	procedures were used to calculate the Mass flow through the receiving flow meter that is redelivered to another facility without being injected into your well in the quarter		
	+BACK NEXT+		
Paperwork Reduction Act Burder	Statement   Contact Us		e-GGRT RY2011-T2 R 18 UU-unit-s

## Entering Quarterly Carbon Dioxide Concentration

Subpart UU requires you to report the following data:

- The CO<sub>2</sub> 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<sub>2</sub> concentration for the quarter.



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

	mental Protection		🚄 ا لانانا-8			
OME FACILITY REGI	RATION FACILITY MANAGEMENT DATA R	EPORTING	Electronic Greenhouse Gas Reporting Tool			
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	R H H Environmental					
	Subpart UU: Injection of Ca	arbon Dioxide (2011)				
	Subpart Overview + Flow Meter F-Meter 1 +	Eq. UU.2				
	NET ANNUAL MASS OF CO2 RECEIVE	D				
	For a volumetric flow meter, you must ca	Iculate the total annual mass of CO2 in a	<u> </u>			
	CO2 stream received in metric tons by m conditions by the CO2 concentration in the	ultiplying the volumetric flow at standard	(Eq. UU-2) Annual mass of CO2 (metri tons)			
	conditions, according to Equation UU-2.	the now and the density of OC2 in standard				
	(UU.2)					
	Q: Quarterly Volume Received					
	S: Quarterly Volume Redeliver	ed				
	C: Quarterry CO2 Concentration     D: Dennity of CO2 at Standard Conditions					
	by by benery, or over an example operations					
	EQUATION UU-2 SUMMARY AND RESULT					
		•				
	CO <sub>2TJ</sub> = 2	$(Q_{(p-S_{f,p})}) \times D \times C_{CO_{2p,r}}$				
	p*	-1				
	Hover over :	an element in the equation above to reveal a	definition of that element.			
	Quarter Q (standard cubic meters)	S (standard cubic meters) C (vol. 3	NCO2) D (metric tons per scm) Re			
	1		0.0018704			
	2		0.0018704			
	4		0.0018704			
	Incomplete — View Va					
	Report which CO <sub>2</sub> result?	a calculated result rounded				
	C Enter n	ny own result (value will be rounded)				
	U LINGT I					

### **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<sub>2</sub> 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<sub>2</sub> at standard temperature and pressure (STP).

DEPA United S Environ Agency OME FACILITY REGIST	States mental Protection RATION FACILITY MANAGEMEN	T DATA REPORTING	E-GGRT Electronic Greenhouse Gas Reporting Tool
e-GGRT Help	R H H Environmental		Helio, Mstt Hill   My Profile   Logou
	Subpart UU: Injection	on of Carbon Dioxide (2011) F-Meter 1 × Eq. UU-2	
	OUARTERLY VOLUME REC Please provide the volumetric For additional information ab	EIVED flow through the receiving flow meter for each quart put about entering volumetric flow data, please use t	er. he
	<ul> <li>▷ Equation Summary (I</li> <li>□▷ 0: Quarterly Volur</li> <li>□&gt; S: Quarterly Volur</li> <li>□&gt; C: Quarterly CO2</li> <li>□&gt; D: Density of CO2</li> </ul>	U2) he Received be Redelivered Concentration at Standard Conditions	
_	VOLUMETRIC FLOW (QUART Volumetric flow through the receiving flow meter	ER 1, JANUARY TO MARCH) 100 (standard cubi	c meters)
_	Standard or method used to calculate the	API14.3	
	the receiving flow meter in the quarter Number of days for which	p (days)	ul Down Menu
_	substitute data procedures were used to calculate the Volumetric flow through the receiving flow meter in the quarter		
	VOLUMETRIC FLOW IQUART	ER 2. APRIL TO JUNEI	
	Volumetric flow through the receiving flow meter in the quarter	100 (standard cubi	c meters)
	Standard or method used to calculate the Volumetric flow through the receiving flow meter in the quarter	API14.3	
	Number of days for which substitute data procedures were used to calculate the Volumetric flow through the receiving flow meter in the quarter	(days)	
	Volumetric flow through the receiving flow meter in the quarter	ER 3, JULY TO SEPTEMBER) 100 (standard cubi	c meters)
	Standard or method used to calculate the Volumetric flow through the receiving flow meter in the quarter	API14.3	
	Number of days for which substitute data procedures were used to calculate the Volumetric	(days)	
	flow through the receiving flow meter in the quarter		
	VOLUMETRIC FLOW (QUART	ER 4, OCTOBER TO DECEMBER)	
	Volumetric flow through the receiving flow meter in the quarter	100 (standard cubi	c meters)
	Standard or method used to calculate the Volumetric flow through the receiving flow meter in the quarter	API14.3	
	Number of days for which substitute data procedures were used to calculate the Volumetric flow through the receiving flow meter in the quarter	(days)	
	+BACK NEXT+		

#### **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<sub>2</sub> 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.

	mental Protection		
ME FACILITY REGIST	RATION FACILITY MANAGEMEN	IT DATA REPORTING	Reporting Tool
e-GGRT Help	R H H Environmental Subpart UU: Injecti	on of Carbon Dioxide (2011)	mello, kvan mili ( ing Prone ( Luggi
	Supplie Overney withow meter	a r-meter 1 # Eq. 00-2	
	OUARTERLY VOLUME Red Please provide the volumetri to another facility without be information about entering vi	EIVED THAT IS REDELIVERED c flow through the receiving flow meter that is redelivered ing injected into your well for each quarter. For additional plumetric flow data, please use the e-GGRT Help link(s)	
	Provided. D Equation Summary ( D 0: Quarterly Volu	UU-2) me Received	
	S: Quarterly Volu D: C: Quarterly CO2 D: Density of CO2	me Redelivered Concentration - at Standard Conditions	
	VOLUMETRIC FLOW REDEL Volumetric flow through	IVERED (QUARTER 1, JANUARY TO MARCH) 25 (standard cubic mete	rs)
_	the receiving flow meter that is redelivered to another facility without being injected into your well in the quarter		
	Standard or method used to calculate the Volumetric flow through	API21.1	
	the receiving flow meter that is redelivered to another facility without being injected into your	Pull Dov	vn Menu
	Well in the quarter Number of days for which substitute data	(days)	
_	<ul> <li>procedures were used to calculate the Volumetric flow through the</li> </ul>		
	is redelivered to another facility without being injected into your well in the quarter		
	VOLUMETRIC FLOW REDEL	IVERED (QUARTER 2, APRIL TO JUNE)	
	Volumetric flow through the receiving flow meter that is redelivered to another facility without being injected into your	25 (standard cubic mete	(13)
	well in the quarter Standard or method used	API211	
	to calculate the Volumetric flow through the receiving flow meter that is redelivered to another facility without being niected into your		
	well in the quarter Number of days for which	(days)	
	substitute data procedures were used to calculate the Volumetric flow through the receiving flow meter that is redelivered to another facility without being		
	injected into your well in the quarter		
	VOLUMETRIC FLOW REDEL Volumetric flow through	IVERED (QUARTER 3, JULY TO SEPTEMBER) 25 (standard cubic mete	rs)
	the receiving flow meter that is redelivered to another facility without being injected into your	23 Overdere sebic mete	
	Standard or method used to calculate the	API21.1	
	Volumetric flow through the receiving flow meter that is redelivered to another facility without		
	being injected into your well in the quarter		
	substitute data procedures were used to calculate the Volumetric	0 (days)	
	now through the receiving flow meter that is redelivered to another facility without being injected into your well in		
	VOLUMETRIC FLOW REDEI	IVERED (QUARTER 4, OCTOBER TO DECEMBER)	
	Volumetric flow through the receiving flow meter that is redelivered to	25 (standard cubic mete	rs)
	another facility without being injected into your well in the quarter		
	Standard or method used to calculate the Volumetric flow through the receiving flow meter	API21.1	
	that is redelivered to another facility without being injected into your well in the quarter		
	Number of days for which substitute data procedures were read to	(days)	
	calculate the Volumetric flow through the receiving flow meter that is redelivered to another facility without being injected into your well in		
	the quarter		
	NEXT?		

### **Entering Quarterly Carbon Dioxide Concentration**

Subpart UU requires you to report the following data:

- The CO<sub>2</sub> 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<sub>2</sub> concentration for the quarter.

	ed States ronmental Protection http://www.com/action		e-GGRT 🔎
1E FACILITY REGI	ISTRATION FACILITY MANAGEMEN	T DATA REPORTING	Electronic Greenhouse Gas Reporting Tool Halo Mart III   Mr. Protect   1 G
	R H H Environmental		root married in the root of the
	Subpart UU: Injecti	on of Carbon Dioxi	de (2011)
	Subpart Overview » Flow Mete	r F-Meter 1 » Eq. UU-2	
	QUARTERLY CARBON DIO	XIDE CONCENTRATION	
	flease provide the concentra flow for each quarter. For ad- data please use the e-GGR	ition of carbon dioxide (CO2) in fitional information about about T Help link(s) provided.	the flow meter's mass entering concentration
	Regulation Summary ()	JU-2)	
	₽ 0: Quarterly Volu	ne Received	
	S: Quarterly Volum	ne Redelivered	
	E: Quarterly CO2	Concentration	
	D D: Density of CO2	at Standard Conditions	
	VOLUMETRIC CONCENT	DATION (OUADTED 1. JANUA	NEX TO MARCH
	COs concentration in the	FRANCING (GOVALLER 1, SANCO	(c) (along NCOs as a desired fraction 0.4 + 6.1 P).
	quarter		(double secos as a decimal naction, d 5 x 5 1.0)
	Standard or method used	ASTM D1945-03 (2010) 💌	
-	to calculate CO2 concentration in the		K
	quarter		Pull Down Menu
	Were substitute data	Ves	T di Down Wend
	procedures used to calculate the CO2		
	concentration in the		
	quarterr		
	VOLUMETRIC CO2 CONCEN	TRATION (QUARTER 2, APRIL	TO JUNE)
	CO2 concentration in the		.62 (volume %CO2 as a decimal fraction; 0 ≤ x ≤ 1.0)
	Standard or mothod used		
	to calculate CO2	ASTM D1949-03 (2010)	
	concentration in the quarter		
	Were substitute data	Ver	
	procedures used to	C 100	
	concentration in the		
	quarter?		
	VOLUMETRIC CO2 CONCEN	TRATION (QUARTER 3, JULY	TO SEPTEMBER)
	CO2 concentration in the		.41 (volume %CO2 as a decimal fraction; $0 \le x \le 1.0$ )
	quarter		
	Standard or method used to calculate CO2	ASTM D1945-03 (2010) 💌	
	concentration in the		
	quarter		
	Were substitute data procedures used to	Ves Ves	
	calculate the CO2		
	quarter?		
	VOLUMETRIC CONCENT	DATION (OLIARTER 4: OCTO	BED TO DECEMBED)
	CO2 concentration in the		47 bolume SCD2 as a decimal fraction: 0 ≤ x ≤ 1.0.
	quarter	L	The country is a second metallity of a second
	Standard or method used	ASTM D1945-03 (2010) 💌	
	to calculate CO2 concentration in the		
	quarter		
	Were substitute data	Yes	
	procedures used to calculate the CO <sub>2</sub>		
	concentration in the		
	quarter?		
	+BACK SUMMARY+		

Select 'SUMMARY'to view a summary of the entered quarterly information. The screen shot for CO2 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.

	ironmental Protectio ncy				e-GGR	
IE FACILITY REG	ISTRATION FACILI	TY MANAGEMENT DATA R	PORTING		Reporting Too Hello, Matt Hill   My F	Tofile   Log:
⊱GGRT Help	R H H Envi Subpart Subpart Over	ronmental UU: Injection of Ca niew + Flow Meter F-Meter 1	ırbon Dioxide (2011 Eq. UU-2	)		
	NET ANNU. For a volum CO2 stream conditions to conditions,	AL MASS OF CO2 RECEIVE etric flow meter, you must ca received in metric tons by n y the CO2 concentration in t according to Equation UU-2.	D Iculate the total annual mass o ultiplying the volumetric flow at ne flow and the density of CO2	fCOzin a standard at standard	(Eq. UU-2) Annual mass of C tons)	0.3 Oz (metric
	BD Equat D C D S D C D C D C	Equation Summary (80.2)     D 0: Duarterly Volume Received     D 5: Duarterly Volume Received     D 5: Outarterly Volume Redelevered     D: Counterly OCC Decembration     D: D: Decemposite of OCC as Mandata Conditions				
	EQUATION U	U-2 SUMMARY AND RESU CO <sub>214</sub> = 2 P	$\begin{bmatrix} I \\ Q_{t,p} - S_{t,p} \end{bmatrix} \times D \times C_{CO_{t}}$	2рл		
		Hover over	an element in the equation abo	ve to reveal a defin	nition of that element.	
			S (standard cubic meters)	C (vol. %CU2)	D (metric tons per scm)	Resu
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	Quarter	Q (standard cubic meters) 100	25	0.42	0.0019704	0.05891/
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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						
CEPA United Si Environm Agency HOME FACILITY REGISTR	ates ental Protection ATION FACILITY MANAGEME	NT DATA R	EPORTING		Electronic Green Rep	GRT house Gas orting Tool	Ø
					Hello, Mat	L Hill   My Prof	le   Logout
😢 e-GGRT Help	R H H Environmental Subpart UU: Inject Subpart Overview	ion of Ca	arbon Dioxide <mark>(20</mark>	11)			
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	For additional information a link(s) provided.	bout Subpart	oo reponing, please use m	e e-ooki nep		1	
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	Cantainer 1	Container	Mass	231.0	Complete	OPEN	×
	Lga F-Meter 1	Flow Meter	Volumetric	0.3	Complete	OPEN	×
	ADD a Flow Meter or Con <b>Facility Overview</b> <sup>1</sup> A status of "incomplete" mean validation messages in your V subpart you will not see this lim	tainer hs that one or r alidation Repo	nore required data elements t by clicking the "View Validat	are incomplete. For d ion" link above (Note: i	etails, refer to the Da f there are no validati	ta Completer on message	1855 Is for this
	1 Statement   Contact Us				e-GORT RY2011	-T2.R.28   I	UU-overview

## **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 $\mathrm{CO}_2$ Received for this facility

To add or update sources of CO<sub>2</sub> received, locate the FACILITY INFORMATION table on the Subpart UU Overview page and click OPEN.

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	Sources of CO2 Received					
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Select the source(s) of CO<sub>2</sub> received from the options listed. More than one option may be selected if the CO<sub>2</sub> originated from multiple sources. If the source of the CO<sub>2</sub> is not known, "unknown" should be selected.



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

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	Sources of CO2 Received	
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	FLOW METERS AND CONTAINERS	
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## **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



### 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<sub>2</sub> was received must be entered separately with a unique unit name/identifier.

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	UNIT INFORMATION  Name or ID*  Description (optional)	FM 1	(40 characters maximum)
	Type* MEASUREMENT TYPE Specify measurement type	Select  Select Plaw Mater Container Mass basis Volumetric basis	

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

Click image to expand

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HOME FACILITY REGIST	RATION FACILITY MANAGEMENT	DATA REPORTING		Electronic Greenhouse Gas Reporting Tool
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	UNIT INFORMATION			
	Name or ID* Description (optional)	FM 1	(4U characte	rs maximum)
	Туре*	Flow Meter 💌		
-	MEASUREMENT TYPE Specify measurement* type	<ul> <li>Mass basis</li> <li>Volumetric basis</li> </ul>		
	CANCEL SAVE			
Paperwork Reduction Act Burd	len Statement   Contact Us			e-GGRT RY2011-T2 R-18 UU-unit-maint

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



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<sub>2</sub> received data, select "open" to the right of the flow meter or container name in the FLOW METERS AND CONTAINERS table.

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	Ta FM 1	Elow Meter	Maco		Incomplete	OPEN	- 2	
	+ ADD a Flow Mater or	Container	·	are incomplete. For	details, refer to the	Data Complete	1ess	

## **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.

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Validation Notification Tile
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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

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	D F-Meter 1	Flow Meter	Volumetric	0.3	Complete	OPEN	×
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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.



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**