



**e-GGRT Training Webinar on
Updates to Reporting GHG Data for Subparts II and TT**

U.S. Environmental Protection Agency
Greenhouse Gas Reporting Program (GHGRP)
February 2013



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For today's webinar please only submit questions regarding e-GGRT functionality. Question on other topics (rule requirements, legal issues, etc.) should be submitted to GHGReporting@epa.gov.

Overview



- Inputs to equations whose reporting was deferred until 2013 must be reported to EPA by **April 1, 2013**, for reporting years **2011 and 2012**
 - Listed in Table A-6 of the rule by subpart
 - Incorporated into e-GGRT
- Walk through changes made to e-GGRT
 - For reporting of inputs to equations
 - System now performs many of the calculations

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There are some substantial changes to the e-GGRT system for this reporting cycle.

The inputs to equations whose reporting was deferred until 2013 must be reported to EPA by April 1, 2013 for reporting years 2011, and 2012. The inputs have been incorporated into e-GGRT.

For the list of inputs that were deferred until 2013, refer to Table A-6 of the rule. The inputs are listed by subpart.

Please note, while most of the inputs to equations will be collected starting in 2013, there are a few inputs in subparts II and TT that were deferred until 2015. These will not be collected at this time. For a list of inputs that were deferred until 2015, please see Table A-7 of the rule.

The purpose of this webinar is to walk through e-GGRT to highlight the changes as a result of adding the inputs. Because these inputs are reported, the system can now do many of the calculations for reporters.

What is Not Covered in this Webinar



- Basics of system navigation
 - SAVE at bottom of the page, even if you didn't change anything on that page!!!
- How to get into/add subpart II or TT
- Anything within the module that has not changed
- Validation messages
- Calculation spreadsheets
- Signing, certifying, or submitting your finished report
- Please refer to past webinar for these basics:
http://www.epa.gov/ghgreporting/documents/pdf/2012/training/Subpart-II-TT_e-ggrrt.pdf

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As was said, this webinar is going to focus on the changes to e-GGRT as a result of the equation inputs deferral having expired.

Therefore, there are a number of items this webinar will not cover that were covered in previous webinars. You can refer back to the previous webinar by going to the link on the last bullet of this slide.

What is not covered are the basic navigation of the system. However, it should be noted, that reporters should click SAVE at the bottom of all pages, where there is a SAVE button. This is even if you did not change anything on the page.

Also not covered is how to get into the different subpart modules or how to add or remove subparts, the validation messages, calculation spreadsheets that are still accessible from the Help link, how to sign, certify, and submit a report. Also not covered is anything that has not changed in the module.

For more information about updated to e-GGRT in modules other than II and TT, please go to the Training and Testing Opportunities section on our web site and download other webinars.

Inputs to be Reported for Subpart TT



- First and last (for closed landfills using Equation TT-4a) year the landfill accepted waste for disposal
- Capacity of the landfill (for closed landfills using Equation TT-4a)
- Fraction of CH_4 in landfill gas (F)
- Methane correction factor (MCF) value used in the calculations
- For each waste stream identified in paragraph §98.466(b): the decay rate (k) value used in the calculations; and if Equation TT-4 of this subpart is used, provide: value of landfill capacity, YrData, and YrOpen
- Quantity of waste disposed of in the landfill for the specified year for each waste stream identified in §98.466(b)
- Degradable organic carbon value used in calculations
- Surface area at the start of the reporting year for the landfill sections that contain waste and that are associated with the selected cover type for facilities using a landfill gas collection system
- Modeled annual methane generation calculated using Equation TT-1
- Plus any data elements now reported under subpart HH for landfills with gas collection systems

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The webinar will first cover subpart TT which as before used web forms to enter required data in e-GGRT.

This is a detailed list of items whose deferral has expired for Subpart TT. Many of these are inputs to Equation TT-1, the first order decay model as you see waste quantities, DOC, and k-values among other data elements.



Subpart TT: Subpart OVERVIEW

e-GGRT HelpHH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

Subpart Overview

OVERVIEW OF SUBPART REPORTING REQUIREMENTS

Subpart TT requires industrial waste landfills to report methane (CH₄) generation and emissions quantities. First, provide the information requested in the Landfill Details page and e-GGRT will determine what additional information is required for reporting based on the information you provide about your landfill. Next, identify each waste stream placed into the landfill and provide the associated information requested by e-GGRT. For additional information about Subpart TT reporting, please use the e-GGRT Help link(s) provided.

EPA has finalized a rule that defers the deadline for reporting certain data elements used as inputs to emission equations for direct emitters until March 31, 2015. See 76 FR 53057 (published August 25, 2011) and 77 FR 48072 (concerning additional inputs in this subpart, published August 13, 2012). In accordance with the rule, e-GGRT is not currently collecting this subset of inputs to emission equations. If you choose to report these inputs to EPA by including them in a file uploaded to this page, please note that the inputs may be subject to public release.

 [Subpart TT: View Validation](#)

Reporting Information

Landfill Details	 OPEN
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[← Facility Overview](#)

As before, when you get into the subpart TT module, this is what you see. Click OPEN next to Landfill Details to get started.

Subpart TT – Landfill Details (1)



e-GGRT Help

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

[Subpart Overview](#) » [Landfill Details](#)

LANDFILL DETAILS

Much of the information on the form below is necessary to determine which annual reporting requirements apply to your landfill (e.g., does your landfill have a landfill gas collection system?). The answers you provide on this screen will determine what greenhouse gas reporting elements are made available on your Subpart TT Overview page. For additional information about the facility information required by Subpart TT, please use the e-GGRT Help link(s) provided.

* denotes a required field

In 2012, was the landfill open* or closed? Open (actively accepted waste in the reporting year or expects to receive waste in future years) Closed (no longer accepting waste)

First year the landfill accepted waste (year)

LANDFILL CAPACITY

Landfill capacity (metric tons)

LANDFILL GAS COLLECTION SYSTEM

If the landfill has a landfill gas collection system, indicate the manufacturer of the gas collection system, the capacity of the system in actual cubic feet per minute (acfm), and the number of wells present at the landfill. For manufacturer of the gas collection system, indicate the entity that designed the gas collection system and the entity that installed the gas collection system. If this information is not available, report the manufacturer of the blower. Do not use this space to indicate the manufacturer of the flares in place at the landfill. Also do not use this space to indicate the brand of measurement equipment used to monitor landfill gas flow or methane concentration.

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The first question is the same as before, whether the landfill was open or closed.

Subpart TT – Landfill Details (2)



e-GGRT Help

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

[Subpart Overview](#) » [Landfill Details](#)

LANDFILL DETAILS

Much of the information on the form below is necessary to determine which annual reporting requirements apply to your landfill (e.g., does your landfill have a landfill gas collection system?). The answers you provide on this screen will determine what greenhouse gas reporting elements are made available on your Subpart TT Overview page. For additional information about the facility information required by Subpart TT, please use the e-GGRT Help link(s) provided. * denotes a required field

In 2012, was the landfill open or closed? Open (actively accepted waste in the reporting year or expects to receive waste in future years) Closed (no longer accepting waste)

First year the landfill accepted waste (year)

If the landfill is open, the estimated year of landfill closure (year)

LANDFILL CAPACITY

Landfill capacity (metric tons)

LANDFILL GAS COLLECTION SYSTEM

If the landfill has a landfill gas collection system, indicate the manufacturer of the gas collection system, the capacity of the system in actual cubic feet per minute (acfm), and the number of wells present at the landfill. For manufacturer of the gas collection system, indicate the entity that designed the gas collection system and the entity that installed the gas collection system. If this information is not available, report the manufacturer of the blower. Do not use this space to indicate the manufacturer of the flares in place at the landfill. Also do not use this space to indicate the brand of measurement equipment used to monitor landfill gas flow or methane

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In this example, the landfill is open, so the next questions that need to be answered for all open landfills is when it first accepted waste and when it is expected to close. These are slightly different from past years' reporting.

Subpart TT – Landfill Details (3)



e-GGRT Help

HH-C Landfill 2
Subpart TT: Industrial Waste Landfills (2012)
Subpart Overview » **Landfill Details**

LANDFILL DETAILS
Much of the information on the form below is necessary to determine which annual reporting requirements apply to your landfill (e.g., does your landfill have a landfill gas collection system?). The answers you provide on this screen will determine what greenhouse gas reporting elements are made available on your Subpart TT Overview page. For additional information about the facility information required by Subpart TT, please use the e-GGRT Help link(s) provided. * denotes a required field

In 2012, was the landfill open or closed? Open (actively accepted waste in the reporting year or expects to receive waste in future years) Closed (no longer accepting waste)

First year the landfill accepted waste (year) **1**

If the landfill is closed, the last year that the landfill received waste (year) **2**

LANDFILL CAPACITY
Landfill capacity (metric tons) **2**

LANDFILL GAS COLLECTION SYSTEM
If the landfill has a landfill gas collection system, indicate the manufacturer of the gas collection system, the capacity of the system in actual cubic feet per minute (acfm), and the number of wells present at the landfill. For manufacturer of the gas collection system, indicate the entity that designed the gas collection system and the entity that installed the gas collection system. If this information is not available, report the manufacturer of the blower. Do not use this space to indicate the manufacturer of the flares in place at the landfill. Also do not use this space to indicate the brand of measurement equipment used to monitor landfill gas flow or methane

If the landfill is closed, the next questions that need to be answered for all closed landfills is when it first accepted waste and the last year it accepted waste. Again, these are slightly different from past years' reporting (Arrow #1).

Then for all landfills, open or closed, report the landfill capacity in metric tons (Arrow #2).

Subpart TT – Landfill Details (4)



page. For additional information about the facility information required by Subpart TT, please use the e-GGRT Help link(s) provided. * denotes a required field

In 2012, was the landfill open or closed? Open (actively accepted waste in the reporting year or expects to receive waste in future years) Closed (no longer accepting waste)

First year the landfill accepted waste (year)

If the landfill is closed, the last year that the landfill received waste (year)

LANDFILL CAPACITY

Landfill capacity (metric tons)

LANDFILL GAS COLLECTION SYSTEM

If the landfill has a landfill gas collection system, indicate the manufacturer of the gas collection system, the capacity of the system in actual cubic feet per minute (acfm), and the number of wells present at the landfill. For manufacturer of the gas collection system, indicate the entity that designed the gas collection system and the entity that installed the gas collection system. If this information is not available, report the manufacturer of the blower. Do not use this space to indicate the manufacturer of the flares in place at the landfill. Also do not use this space to indicate the brand of measurement equipment used to monitor landfill gas flow or methane concentration.

Does the landfill have a landfill gas collection system? Yes No

Manufacturer of the gas collection system

Capacity of the gas collection system (acfm)

Number of wells (wells)

Annual operating hours (hours)

LANDFILL PASSIVE VENTS AND LEACHATE RECIRCULATION

Passive vents and/or flares are present (note: only for flares that are) (check if true)

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Next, as in the previous version of e-GGRT you are asked whether your landfill has a gas collection system. If you indicate that your landfill does have a gas collection system, you must now report the annual operating hours of the gas collection system in addition to the information that was previously reported about the gas collection system.

Subpart TT – Landfill Details (5)



LANDFILL PASSIVE VENTS AND LEACHATE RECIRCULATION.

Passive vents and/or flares are present (vents or flares that are not considered part of the gas collection system) (check if true)

An indication of whether leachate recirculation was used during the reporting year (check if true)

The typical frequency of use of leachate recirculation over the past ten (10) years Select

COVER MATERIALS

Identify each cover material used and report the surface area in square meters for each cover type selected.

Identify each type of cover material used

<input checked="" type="checkbox"/> Organic cover	<input type="text"/>	(square meters)
<input type="checkbox"/> Sand cover	<input type="text"/>	
<input checked="" type="checkbox"/> Clay cover	<input type="text"/>	(square meters)
<input type="checkbox"/> Other soil mixture	<input type="text"/>	

EQUATION TT-1 DETAILS

The fraction of CH₄ in landfill gas (F) is based on a measured value (not the default) (check if true)

Fraction by volume of CH₄ in landfill gas (fraction by volume)

An MCF value other than the default of 1 was used (check if true)

Methane Correction Factor (fraction)

ACTIVE AERATION INFORMATION

Aeration blower capacity (scfm)

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Two more changes on the Landfill Details page are shown here.

First, when you identify each cover material that is used, you must also report the surface area in square meters for each cover type selected (Arrow #1).

Second, there the same check boxes for MCF and F. However, this time the values used for these terms must also be reported. The defaults are automatically used if you do not check the boxes. But if you do check the boxes, then you must enter the values you used for the calculations.

As before, if you say you used an MCF other than the default, you have to enter data about active aerations at your landfill. This was covered in the previous webinars and has not changed so detail is not being provided here.

Subpart TT: Landfill Details (6)



Other factors used as a basis for the selected MCF value	<input type="text"/>
Description of the aeration system	<input type="text"/>

METHOD #3 (EQUATION TT-4A) DATA

Note: The following data are required to be reported only if you used Method #3 (Equation TT-4a) to estimate historic waste quantities for one or more waste streams. If you did not use Equation TT-4a to estimate historic waste quantities for any waste stream, you do not need to report this data.

Capacity of the landfill used (or the total quantity of waste-in-place) at the end of the "YrData" from design drawings or engineering estimates	<input type="text"/> (metric tons)
Are waste quantity data available?	<input type="radio"/> waste quantity data are available for some years <input type="radio"/> waste quantity data are not available for any years
The year in which the landfill last received waste(YrData)	<input type="text"/>
Do you know the year when the landfill opened?	<input type="radio"/> Yes <input type="radio"/> No
The year the landfill first received waste from company records, or 1960 (whichever is more recent)	<input type="text" value="1960"/>

NUMBER OF WASTE STREAMS

Number of waste streams added	0
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The number of waste streams is automatically calculated by e-GGRT based on the number of waste streams added on the Subpart Overview page.

[← Subpart Overview](#)
CANCEL
SAVE

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The last few questions on the landfill details page are contingent upon the methods you used to figure out the quantity of each waste stream that was placed in your landfill.

Take note of the Note in the yellow box: "The following data are required to be reported only if you used Method #3 (Equation TT-4a) to estimate historic waste quantities for one or more waste streams. If you did not use Equation TT-4a, you do not need to report this data. below."

If you used Equation TT-4a, complete these fields and click SAVE, then Subpart Overview


 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Subpart TT: Add a Waste Stream (1)

Heiko, Rachel Schmelz | My Profile | Logout

e-GGRT Help

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

Subpart Overview

OVERVIEW OF SUBPART REPORTING REQUIREMENTS

Subpart TT requires industrial waste landfills to report methane (CH₄) generation and emissions quantities. First, provide the information requested in the Landfill Details page and e-GGRT will determine what additional information is required for reporting based on the information you provide about your landfill. Next, identify each waste stream placed into the landfill and provide the associated information requested by e-GGRT. For additional information about Subpart TT reporting, please use the e-GGRT Help link(s) provided.

EPA has finalized a rule that defers the deadline for reporting certain data elements used as inputs to emission equations for direct emitters until March 31, 2015. See 76 FR 53057 (published August 25, 2011) and 77 FR 48072 (concerning additional inputs in this subpart, published August 13, 2012). In accordance with the rule, e-GGRT is not currently collecting this subset of inputs to emission equations. If you choose to report these inputs to EPA, by including them in a file uploaded to this page, please note that the inputs may be subject to public release.

 **Subpart TT: View Validation**

Reporting Information	
Landfill Details	OPEN
Methane Generation and Emissions for Landfills without LFG Collection Systems	OPEN

WASTE STREAM SUMMARY

Name/ID	Status	Delete
No streams have been added		
<div style="display: flex; justify-content: space-between; align-items: center;"> + ADD a Waste Stream ← </div>		

[← Facility Overview](#)

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A big change in the subpart TT module is that before proceeding with entering data related to methane generation and emissions, you must first report data about your waste streams. Some of this data entry is the same as previous versions of e-GGRT. Some is different.

Click on ADD a Waste Stream

Subpart TT: Add a Waste Stream (2)



HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

[Subpart Overview](#) » [Add a Stream](#)

WASTE STREAM INFORMATION

Subpart TT requires a facility to uniquely identify and provide the information described below for each waste stream placed into the landfill. For additional information about adding and editing a waste stream, please use the e-GGRT Help link(s) provided.

* denotes a required field

WASTE STREAM INFORMATION

Name or Identifier * (40 characters maximum)

Waste Stream Description

(List the types of materials in the waste stream, e.g., biosolids from wastewater sludge digester.)

Identify each type of waste present in the waste stream

- food processing
- pulp and paper
- wood and wood product
- construction and demolition
- inert waste
- other industrial solid waste

METHOD(S) USED TO DETERMINE WASTE STREAM QUANTITIES

Use the grid below to select the method(s) used to determine waste stream quantities in each year this waste stream was placed in the landfill. More than one method may be selected for a given year. See the explanation of methods below the grid.

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The first part of the Add a Stream page, shown on this slide, remains unchanged so it will not be detailed now.

Subpart TT: Add a Waste Stream (3)



METHOD(S) USED TO DETERMINE WASTE STREAM QUANTITIES

Use the grid below to select the method(s) used to determine waste stream quantities in each year this waste stream was placed in the landfill. More than one method may be selected for a given year. See the explanation of methods below the grid.

If this waste stream was not placed in the landfill during one or more years, do not check any boxes corresponding to those years. If you wish to reduce the number of years displayed in the grid below, enter a 'first' and 'last' year below and click the FILTER GRID button.

Note that the 'first' and 'last' years are not reporting requirements and will not be included in your annual GHG report; they are only provided to manage the size of the grid for each waste stream. Please note that filtering the grid to remove rows will also remove any check box selections associated with the years removed.

First year this waste stream was placed in the landfill (year)

Last year this waste stream was placed in the landfill (year)

[Filter Grid](#)

RY	Waste Quantity Information					DOC Value Information				
	Method Used to Determine Waste Quantity				Quantity of Waste (metric tons)	Method Used to Determine DOC Value			DOC Value	k-value
	#1	#2	#3	#4		Default from Table TT-1	60-day AB* Test	Volatile Solids Test		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value=""/>
1960	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value=""/>
1961	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value=""/>
1962	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value=""/>
1963	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value=""/>
1964	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value=""/>
1965	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value=""/>
1966	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value=""/>
1967	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value=""/>
1968	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value=""/>	<input type="text" value=""/>

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The next section is about methods used to determine waste stream quantities and it is also for the quantities of waste which must now be reported. e-GGRT uses the same grid structure as in the previous version. The difference is that a lot more information needs to be entered into this grid.

Start by filtering the grid as you did before. Enter the first year that this particular waste stream was placed in the landfill and the last year it was placed there. Click Filter Grid

Notice that the first year defaults to 1960.

Subpart TT: Add a Waste Stream (4)



was placed in the landfill Filter Grid

RY	Waste Quantity Information				Quantity of Waste (metric tons)	DOC Value Information				
	Method Used to Determine Waste Quantity					Method Used to Determine DOC Value				
	#1	#2	#3	#4		Default from Table TT-1	60-day AB* Test	Volatile Solids Test	DOC Value	k-value
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>
2009	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
2010	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
2011	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
2012	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

Clear All Quantities Clear All Quantities Clear All Quantities

- Method #1: Used one of the waste quantity measurement methods specified in 98.463(a)(2)(i): direct mass measurements, direct volume measurements multiplied by waste stream density, mass balance procedures (difference between the mass of process inputs and the mass of process outputs), or the number of loads multiplied by the mass of waste per load based on the working capacity of the vehicle or container.
- Method #2: Per 98.463(a)(2)(ii)(A) and (B), calculated the average waste disposal rate per Equation TT-2 and calculated the waste disposal quantities for historic years in which direct waste disposal measurements are not available using historical production data per Equation TT-3.
- Method #3: Per 98.463(a)(2)(ii)(C), calculated an average annual bulk waste disposal quantity for historic years when waste quantity data as determined by other methods are available consecutively for the most recent disposal years (Equation TT-4a).
- Method #4: Per 98.463(a)(2)(ii)(C), calculated an average annual bulk waste disposal quantity for historic years when waste quantity data as determined by other methods are available for sporadic (non-consecutive) years (Equation TT-4b).

Range of years for which both disposal and production data were used in Equation TT-2 to calculate the average waste disposal factor for the landfill

Please report the range of years only if you employed Equation TT-2 and TT-3 to calculate waste disposal quantities as described in 98.346(a)(2)(i)(A) and (B).

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The slide shows the grid filtered for just a few years, so you can see the rest of the page.

Under Waste Quantity Information, you need to check the boxes for which methods you used to determine your waste quantities. These are Methods #1 - #4. Below the grid you see an explanation as to what the methods refer to. These methods are also fully defined in the rule language itself.

You also have to enter the quantity of waste in metric tons for each year in the grid for that waste stream (Arrow #1).

Then under DOC Value Information is where you indicate which method you used to determine the DOC value, also in the same grid. And you must also enter the DOC value and k-value you used for this waste type in Equation TT-1 which is the First Order Decay Model used to calculate modeled methane generation (Arrows #2).

Two features to point out on the grid. First the Clear All Quantities feature under the title of the columns where you have to enter numbers. This is if you have to start over entering the numbers. Second if the same value needs to be entered for all years in the grid, click the little blue arrow to the right of the first box in that column to automatically populate all values in the column with the same number.

The last question on this page is the same as asked in the previous version of e-GGRT, it is just in a different location. It used to be on the landfill details page and now it is here on the Add a Waste Stream page.

Subpart TT: Add a Waste Stream (5)



RY	Waste Quantity				Quantity of Waste (metric tons)	DOC Value			DOC Value	k-value
	#1	#2	#3	#4		Default from Table TT-1	60-day AB Test	Volatile Solids Test		
2009	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>
2010	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
2011	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
2012	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

Clear All Quantities Clear All Quantities Clear All Quantities

- Method #1: Used one of the waste quantity measurement methods specified in 98.463(a)(2)(i): direct mass measurements, direct volume measurements multiplied by waste stream density, mass balance procedures (difference between the mass of process inputs and the mass of process outputs), or the number of loads multiplied by the mass of waste per load based on the working capacity of the vehicle or container.
- Method #2: Per 98.463(a)(2)(ii)(A) and (B), calculated the average waste disposal rate per Equation TT-2 and calculated the waste disposal quantities for historic years in which direct waste disposal measurements are not available using historical production data per Equation TT-3.
- Method #3: Per 98.463(a)(2)(ii)(C), calculated an average annual bulk waste disposal quantity for historic years when waste quantity data as determined by other methods are available consecutively for the most recent disposal years (Equation TT-4a).
- Method #4: Per 98.463(a)(2)(ii)(C), calculated an average annual bulk waste disposal quantity for historic years when waste quantity data as determined by other methods are available for sporadic (non-consecutive) years (Equation TT-4b).

Select the 60-day anaerobic biodegradation test method used¹

¹Refer to the e-GGRT Help link(s) provided in the DOC test method provided in the pick list

Range of years for which both disposal and production data were used in Equation TT-2 to calculate the average waste disposal factor for the landfill

Please report the range of years only if you employed Equation TT-2 and TT-3 to calculate waste disposal quantities as described in 98.346(a)(2)(ii)(A) and (B).

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One more item to note on the methods used for DOC. As before, if you click the box that you used the 60-day anaerobic biodegradation test as a method used to Determine DOC values, you need to answer the same series of questions as before about which method you used from a pick list. And if you choose other, you will have to specify the method.

When you are done with this page click SAVE and go to Subpart Overview to see your waste stream listed there.



Subpart TT: Methane Generation and Emissions for Landfills without Gas Collection (1)

e-GGRT Help

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

Subpart Overview

OVERVIEW OF SUBPART REPORTING REQUIREMENTS

Subpart TT requires industrial waste landfills to report methane (CH₄) generation and emissions quantities. First, provide the information requested in the Landfill Details page and e-GGRT will determine what additional information is required for reporting based on the information you provide about your landfill. Next, identify each waste stream placed into the landfill and provide the associated information requested by e-GGRT. For additional information about Subpart TT reporting, please use the e-GGRT Help link(s) provided.

EPA has finalized a rule that defers the deadline for reporting certain data elements used as inputs to emission equations for direct emitters until March 31, 2015. See 76 FR 53057 (published August 25, 2011) and 77 FR 48072 (concerning additional inputs in this subpart, published August 13, 2012). In accordance with the rule, e-GGRT is not currently collecting this subset of inputs to emission equations. If you choose to report these inputs to EPA by including them in a file uploaded to this page, please note that the inputs may be subject to public release.

 [Subpart TT: View Validation](#)

Reporting information	
Landfill Details	OPEN
Methane Generation and Emissions for Landfills without LFG Collection Systems	OPEN

WASTE STREAM SUMMARY

Name/ID	Status	Delete
 Waste Stream 1	Incomplete	

[ADD a Waste Stream](#)
[Facility Overview](#)

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Since this landfill does not have gas collection as indicated on the Landfill Details page, this is what the Subpart Overview page looks like.

Click OPEN next to Methane Generation and Emissions for Landfills without LFG Collection Systems.

Subpart TT: Methane Generation and Emissions for Landfills without Gas Collection (2)



e-GGRT Help

HH-C Landfill 2
Subpart TT: Industrial Waste Landfills (2012)
Subpart Overview » **GHG Reporting**

CH₄ EMISSIONS (FOR LANDFILLS WITHOUT A GAS COLLECTION SYSTEM)
Landfills that do not have a landfill gas collection system, are required to report annual CH₄ emissions (i.e., the CH₄ generation, adjusted for oxidation, calculated using Equation TT-6 of this subpart), reported in metric tons of CH₄. For additional information, please use the e-GGRT Help link(s) provided.

Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

- ▶ [Equation TT-1 Summary and Result](#)
- ▶ [Equation TT-6 Summary and Result](#)

SUMMARY AND RESULT

Equation	CH ₄
Total annual modeled CH ₄ generation (TT-1)	308.41
Modeled CH ₄ generation, adjusted for oxidation (TT-6)	277.57

Subpart Overview CANCEL NEXT

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Then what happens is e-GGRT walks you through the results of each of the equations starting with Equation TT-1. For landfills without gas collection, this is very straight forward since there are only two equations: Equation TT-1 and TT-6.

The numbers in the Summary and Result section, under the column CH₄, are automatically calculated by e-GGRT based on previously entered data.

Subpart TT: Methane Generation and Emissions for Landfills without Gas Collection (3)



e-GGRT Help

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

Subpart Overview » GHG Reporting

CH₄ EMISSIONS (FOR LANDFILLS WITHOUT A GAS COLLECTION SYSTEM)

Landfills that do not have a landfill gas collection system, are required to report annual CH₄ emissions (i.e., the CH₄ generation, adjusted for oxidation, calculated using Equation TT-6 of this subpart), reported in metric tons of CH₄. For additional information, please use the e-GGRT Help link(s) provided.

Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

Equation TT-1 Summary and Result ← **1**
 Equation TT-6 Summary and Result

CH₄ generation — Eq. TT-1 (metric tons)

308.41

EQUATION TT-1 SUMMARY AND RESULT

$$G_{CH_4} = \sum_{x=S}^{T-1} \{ W_x \times MCF \times DOC \times DOC_F \times F \times \frac{16}{12} \times (e^{-k(T-x-1)} - e^{-k(T-x)}) \}$$

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

Note: The information reported on the Landfill Details and Waste Stream Details pages are used by e-GGRT to automatically calculate the Equation TT-1 result.

S (start year)	T (current reporting year)	Calculated Result
1990	2012	308.41

What result do you want to report to EPA? Use the calculated result rounded (308.41 metric tons)

You can see in the gray box that Equation TT-1 is bolded (Arrow #1).

As is stated in the yellow box, the information reported on the Landfill Details page and the Waste Stream Details page are used by e-GGRT to calculate the Equation TT-1 result.

The calculated result is displayed in the table as well as some, if not all, of the inputs (Arrow #2).

You are then asked whether you want this calculated result reported or you want to instead report a different value. You may want a different value because you did the calculation separately and got a different result for some reason.

The page will default to using the calculated value, but it is recommended that if you do want the calculated value to be used in your report, you should still click the radio button to accept the calculated value even though it is already checked. This will ensure that your response is registered in the system.

Subpart TT: Methane Generation and Emissions for Landfills without Gas Collection (4)



using Equation TT-6 of this subpart), reported in metric tons of CH₄. For additional information, please use the e-GGRT Help link(s) provided.

Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

- Equation TT-1 Summary and Result**
- Equation TT-6 Summary and Result

EQUATION TT-1 SUMMARY AND RESULT

$$G_{CH_4} = \sum_{x=S}^{T-1} \left\{ W_x \times MCF \times DOC \times DOC_f \times F \times \frac{16}{12} \times \left(e^{-k(T-x-1)} - e^{-k(T-x)} \right) \right\}$$

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

Note: The information reported on the Landfill Details and Waste Stream Details pages are used by e-GGRT to automatically calculate the Equation TT-1 result.

S (start year)	T (current reporting year)	Calculated Result
1990	2012	308.41

What result do you want to report to EPA?
 Use the calculated result rounded (308.41 metric tons)
 Enter my own result (value will be rounded)

Report this value (metric tons CH₄)

[←BACK](#) [NEXT→](#)

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If you click enter my own value, you are then provided a box to do so.

Keep in mind that it is likely if you do enter your own value, that EPA will follow up with you during the verification process with an e-GGRT message asking for an explanation as to why you used a different value.

After you enter your own value click next.

Subpart TT: Methane Generation and Emissions for Landfills without Gas Collection (5)



Subpart Overview » GHG Reporting

CH₄ EMISSIONS (FOR LANDFILLS WITHOUT A GAS COLLECTION SYSTEM)
Landfills that do not have a landfill gas collection system, are required to report annual CH₄ emissions (i.e., the CH₄ generation, adjusted for oxidation, calculated using Equation TT-6 of this subpart), reported in metric tons of CH₄. For additional information, please use the e-GGRT Help link(s) provided.

Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

Equation TT-1 Summary and Result
Equation TT-6 Summary and Result

EQUATION TT-6 SUMMARY AND RESULT

$$MG = G_{CH_4} \times (1 - OX)$$

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

G_{CH_4}	OX	Calculated Result
308.41	0.1	277.57

What result do you want to report to EPA?

Use the calculated result rounded (277.57 metric tons)
 Enter my own result (value will be rounded)

← BACK Finished →

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Then you are taken to the Equation TT-6 page. Again you can confirm that your report should contain the result calculated by e-GGRT or your own value.

Then click FINISHED

Subpart TT: Methane Generation and Emissions for Landfills without Gas Collection (4)



e-GGRT Help

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

[Subpart Overview](#) » [GHG Reporting](#)

CH₄ EMISSIONS (FOR LANDFILLS WITHOUT A GAS COLLECTION SYSTEM)

Landfills that do not have a landfill gas collection system, are required to report annual CH₄ emissions (i.e., the CH₄ generation, adjusted for oxidation, calculated using Equation TT-6 of this subpart), reported in metric tons of CH₄. For additional information, please use the e-GGRT Help link(s) provided.

Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

- [Equation TT-1 Summary and Result](#)
- [Equation TT-6 Summary and Result](#)

SUMMARY AND RESULT

Equation	CH ₄
Total annual modeled CH ₄ generation (TT-1)	308.41
Modeled CH ₄ generation, adjusted for oxidation (TT-6)	277.57

[← Subpart Overview](#) [CANCEL](#) [NEXT →](#)

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You are taken back to the GHG Reporting page here and can see your results. Then click Subpart Overview. If you click NEXT again it will take you back through the two equations.

Subpart TT: Methane Generation and Emissions for Landfills without Gas Collection (5)



[e-GGRT Help](#)

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

Subpart Overview

OVERVIEW OF SUBPART REPORTING REQUIREMENTS

Subpart TT requires industrial waste landfills to report methane (CH₄) generation and emissions quantities. First, provide the information requested in the Landfill Details page and e-GGRT will determine what additional information is required for reporting based on the information you provide about your landfill. Next, identify each waste stream placed into the landfill and provide the associated information requested by e-GGRT. For additional information about Subpart TT reporting, please use the e-GGRT Help link(s) provided.

EPA has finalized a rule that defers the deadline for reporting certain data elements used as inputs to emission equations for direct emitters until March 31, 2015. See 76 FR 53057 (published August 25, 2011) and 77 FR 48072 (concerning additional inputs in this subpart, published August 13, 2012). In accordance with the rule, e-GGRT is not currently collecting this subset of inputs to emission equations. If you choose to report these inputs to EPA by including them in a file uploaded to this page, please note that if the inputs may be subject to public release.

Subpart TT: View Validation

Reporting Information	
Landfill Details	OPEN
Methane Generation and Emissions for Landfills without LFG Collection Systems	OPEN

WASTE STREAM SUMMARY

Name/ID	Status	Delete
Waste Stream 1	Incomplete	✖

[+ ADD a Waste Stream](#)
[Facility Overview](#)

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Back at the Subpart Overview page, click Facility Overview to add another subpart or proceed to generating and submitting your report.



Subpart TT: Estimated Waste Depths(1)

e-GGRT Help

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

Subpart Overview

OVERVIEW OF SUBPART REPORTING REQUIREMENTS

Subpart TT requires industrial waste landfills to report methane (CH₄) generation and emissions quantities. First, provide the information requested in the Landfill Details page and e-GGRT will determine what additional information is required for reporting based on the information you provide about your landfill. Next, identify each waste stream placed into the landfill and provide the associated information requested by e-GGRT. For additional information about Subpart TT reporting, please use the e-GGRT Help link(s) provided.

EPA has finalized a rule that defers the deadline for reporting certain data elements used as inputs to emission equations for direct emitters until March 31, 2015. See 76 FR 53057 (published August 25, 2011) and 77 FR 48072 (concerning additional inputs in this subpart, published August 13, 2012). In accordance with the rule, e-GGRT is not currently collecting this subset of inputs to emission equations. If you choose to report these inputs to EPA by including them in a file uploaded to this page, please note that the inputs may be subject to public release.

 [Subpart TT: View Validation](#)

Reporting Information		
Landfill Details		OPEN
Estimated Waste Depths		OPEN
Methane Generation and Emissions for Landfills with LFG Collection Systems		OPEN

WASTE STREAM SUMMARY

Name/ID	Status	Delete
 Waste Stream 1	Incomplete	

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Backtrack to show the steps for landfills with gas collection.

If instead I said yes to the landfill gas collection system question back on the landfill details page, a different path of pages will now be shown on the Subpart Overview page.

Click OPEN next to Estimated Waste Depths.

Subpart TT: Estimated Waste Depths(2)



e-GGRT Help

HH-C Landfill 2
Subpart TT: Industrial Waste Landfills (2012)
Subpart Overview » **Estimated Waste Depth**

WASTE DEPTH ESTIMATIONS
Please provide the estimated depth of each of the areas of the landfill, as shown below. For additional information, please use the e-GGRT Help link(s) provided.

A1:
Estimated waste depth of area with no waste in-place (meters)
Surface area of area with no waste in-place (square meters)

A2:
Estimated waste depth of area without active gas collection, regardless of cover type (meters)
Surface area of area without active gas collection, regardless of cover type (square meters)

A3:
Estimated waste depth of area with daily soil cover and active gas collection (meters)
Surface area of area with daily soil cover and active gas collection (square meters)

A4:
Estimated waste depth of area with an intermediate soil cover, or a final soil cover not meeting the criteria for A5 (meters)
Surface area of area with an intermediate soil cover, or a final soil cover not meeting the criteria for A5 (square meters)

A5:

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For landfills with gas collection, you must now enter the estimate waste depths (in meters) and the surface area (in square meters) for each of the areas listed in Table HH-3 of the rule, Areas A1 through A5.

You'll notice the language has switched over to referring to subpart HH. Recall that industrial landfills with gas collection are referred to the monitoring and data reporting requirements of subpart HH, since the same requirements hold and so few industrial landfills have gas collection.

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (1)



e-GGRT Help

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

Subpart Overview

OVERVIEW OF SUBPART REPORTING REQUIREMENTS

Subpart TT requires industrial waste landfills to report methane (CH₄) generation and emissions quantities. First, provide the information requested in the Landfill Details page and e-GGRT will determine what additional information is required for reporting based on the information you provide about your landfill. Next, identify each waste stream placed into the landfill and provide the associated information requested by e-GGRT. For additional information about Subpart TT reporting, please use the e-GGRT Help link(s) provided.

EPA has finalized a rule that defers the deadline for reporting certain data elements used as inputs to emission equations for direct emitters until March 31, 2015. See 76 FR 53057 (published August 25, 2011) and 77 FR 48072 (concerning additional inputs in this subpart, published August 13, 2012). In accordance with the rule, e-GGRT is not currently collecting this subset of inputs to emission equations. If you choose to report these inputs to EPA by including them in a file uploaded to this page, please note that the inputs may be subject to public release.



Subpart TT: View Validation

Reporting Information

Landfill Details	OPEN
Estimated Waste Depths	OPEN
Methane Generation and Emissions for Landfills with LFG Collection Systems	OPEN

WASTE STREAM SUMMARY

Name/ID	Status	Delete
Waste Stream 1	Incomplete	✘

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Now click OPEN next to Methane Generation and Emissions for Landfills with Gas Collection Systems.

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (1)



e-GGRT Help

HH-C Landfill 2
Subpart TT: Industrial Waste Landfills (2012)
[Subpart Overview](#) » [GHG Reporting](#)

CH₄ EMISSIONS (FOR LANDFILLS WITH A GAS COLLECTION SYSTEM)
 Landfills with gas collection systems are required to report CH₄ generation, CH₄ generation adjusted for oxidation, and CH₄ emissions values using the methodology in section 98.453. For additional information, please use the e-GGRT Help link(s) provided.

Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

- ▷ [Equation TT-1 Summary and Result](#)
- ▷ [Equation in table HH-3 Summary and Result](#)
- ▷ [Equation HH-4 Summary and Result](#)
- ▷ [Equation HH-5 Summary and Result](#)
- ▷ [Equation HH-6 Summary and Result](#)
- ▷ [Equation HH-7 Summary and Result](#)
- ▷ [Equation HH-8 Summary and Result](#)

SUMMARY AND RESULT

Equation	CH ₄
Total annual modeled CH ₄ generation (TT-1)	308.41
Annual quantity of recovered CH ₄ generation (HH-3)	0.52
Total annual modeled CH ₄ generation (HH-4)	
Modeled CH ₄ generation, adjusted for oxidation (HH-5)	277.57
CH ₄ emissions from the landfill in the reporting year (HH-6)	
Measured CH ₄ generation, adjusted for oxidation (HH-7)	
CH ₄ emissions from the landfill in the reporting year (HH-8)	

gov/ghg/datareporting/subparttt/tt_emissions1.do 8

This section lists all of the equations that need to be used to calculate generation and emissions for landfills with gas collection. You see Eq TT-1 and then the list of subpart HH equations, again because landfills with gas collection are referred to subpart HH. The numbers in the Summary and Result section, under the column CH₄, are automatically calculated by e-GGRT based on previously entered data.

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (2)



Annual quantity of recovered CH ₄ generation (HH-3)	0.56
Total annual modeled CH ₄ generation (HH-4)	
Modeled CH ₄ generation, adjusted for oxidation (HH-5)	789.13
CH ₄ emissions from the landfill in the reporting year (HH-6)	
Measured CH ₄ generation, adjusted for oxidation (HH-7)	
CH ₄ emissions from the landfill in the reporting year (HH-8)	

LANDFILL GAS COLLECTED FOR DESTRUCTION

Annual volume of landfill gas collected for destruction (scf)

A missing data procedure was used to determine the volume of landfill gas collected for destruction (check if true)

Number of days substitute data procedure was used to determine the volume of landfill gas collected for destruction (days)

Annual average CH₄ concentration of landfill gas collected for destruction (percent)

A missing data procedure was used to determine CH₄ concentration of landfill gas collected for destruction (check if true)

If CH₄ is monitored daily, the number of days substitute data was used to determine the annual average CH₄ concentration of landfill gas collected for destruction (days)

If CH₄ is monitored weekly, the number of weeks substitute data was used to determine the annual average CH₄ concentration of landfill gas collected for destruction (weeks)

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Underneath the Summary and Result table for the equations is a section that has been covered in previous webinars and has not changed. This is where you enter the annual volume of landfill gas collected, the annual average methane concentration and if substitute data was used for either of those and how many times substitute data was used.

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (3)



If landfill gas collected for destruction

If CH₄ is monitored daily, the number of days substitute data was used to determine the annual average CH₄ concentration of landfill gas collected for destruction (days)

If CH₄ is monitored weekly, the number of weeks substitute data was used to determine the annual average CH₄ concentration of landfill gas collected for destruction (weeks)

Was temperature incorporated into internal calculations run by the collection system's monitoring equipment? Yes No

Was pressure incorporated into internal calculations run by the collection system's monitoring equipment? Yes No

Was landfill gas flow measured on a wet or dry basis? Wet basis Dry basis

Was CH₄ concentration measured on a wet or dry basis? Wet basis Dry basis

Destruction occurred at the facility or off-site At the facility (on-site) Off-site Both

← Subpart Overview
CANCEL
SAVE
NEXT →

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Below that is more that is much the same in terms of entering information about temperature, pressure, and moisture. This functionality is as before.

What is new relates to where destruction occurred (the last question on the page). If all destruction occurs off-site then nothing has changed. If destruction occurred on-site at the facility or occurred both on-site and off-site, additional data must be entered.

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (4)



of weeks substitute data was used to determine the annual average CH₄ concentration of landfill gas collected for destruction

Was temperature incorporated into internal calculations run by the collection system's monitoring equipment? Yes No

Was pressure incorporated into internal calculations run by the collection system's monitoring equipment? Yes No

Was landfill gas flow measured on a wet or dry basis? Wet basis Dry basis

Was CH₄ concentration measured on a wet or dry basis? Wet basis Dry basis

Destruction occurred at the facility or off-site At the facility (on-site) Off-site Both

A back-up destruction device is present (check if true)

Annual operating hours for the primary destruction device (hours)

Destruction efficiency used (report the lesser of manufacturer's specified destruction efficiency and 0.99) 1 (decimal fraction)

[← Subpart Overview](#) [CANCEL](#) [SAVE](#) [NEXT →](#)

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If destruction occurred either on-site or both on-site and off-site, in addition to entering whether a back-up device is present, also enter the annual operating hours of the primary destruction device and the destruction efficiency used.

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (5)



of weeks substitute data was used to determine the annual average CH₄ concentration of landfill gas collected for destruction

Was temperature incorporated into internal calculations run by the collection system's monitoring equipment? Yes No

Was pressure incorporated into internal calculations run by the collection system's monitoring equipment? Yes No

Was landfill gas flow measured on a wet or dry basis? Wet basis Dry basis

Was CH₄ concentration measured on a wet or dry basis? Wet basis Dry basis

Destruction occurred at the facility or off-site? At the facility (on-site) Off-site Both

A back-up destruction device is present (check if true)

Annual operating hours for the primary destruction device (hours)

Annual operating hours for the back-up destruction device (hours)

Destruction efficiency used (report the lesser of manufacturer's specified destruction efficiency and 0.99) (decimal fraction)

[← Subpart Overview](#) [CANCEL](#) [SAVE](#) [NEXT →](#)

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Then if a back-up destruction device is present, enter annual operating hours of that back-up device.

Click SAVE and then NEXT



Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (6)

Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

Equation TT-1 Summary and Result ← **1**

- ▶ Equation in table HH-3 Summary and Result
- ▶ Equation HH-4 Summary and Result
- ▶ Equation HH-5 Summary and Result
- ▶ Equation HH-6 Summary and Result
- ▶ Equation HH-7 Summary and Result
- ▶ Equation HH-8 Summary and Result

EQUATION TT-1 SUMMARY AND RESULT

$$G_{CH_4} = \sum_{x=S}^{T-1} \left\{ W_x \times MCF \times DOC \times DOC_F \times F \times \frac{16}{12} \times (e^{-k(T-x-1)} - e^{-k(T-x)}) \right\}$$

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

Note: The information reported on the Landfill Details and Waste Stream Details pages are used by e-GGRT to automatically calculate the Equation TT-1 result. → **2**

S (start year)	T (current reporting year)	Calculated Result
1990	2012	308.41

What result do you want to report to EPA? ← **3**

Use the calculated result rounded (308.41 metric tons)
 Enter my own result (value will be rounded)

← BACK
NEXT →

33

Then what happens, is e-GGRT walks you through the results of each of the equations, starting with Equation TT-1.

You can see in the gray box that Equation TT-1 is bolded (Arrow #1).

Again, the calculated result is displayed in the table as well as some, if not all, of the inputs (Arrow #2).

Same as before, you are then asked whether you want this calculated result reported or you want to instead report a different value.

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (7)



- ▷ Equation in table HH-3 Summary and Result
- ▷ Equation HH-4 Summary and Result
- ▷ Equation HH-5 Summary and Result
- ▷ Equation HH-6 Summary and Result
- ▷ Equation HH-7 Summary and Result
- ▷ Equation HH-8 Summary and Result

EQUATION TT-1 SUMMARY AND RESULT

$$G_{CH_4} = \sum_{x=S}^{T-1} \left\{ W_x \times MCF \times DOC \times DOC_F \times F \times \frac{16}{12} \times \left(e^{-k(T-x-1)} - e^{-k(T-x)} \right) \right\}$$

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

Note: The information reported on the Landfill Details and Waste Stream Details pages are used by e-GGRT to automatically calculate the Equation TT-1 result.

S (start year)	T (current reporting year)	Calculated Result
1990	2012	308.41

What result do you want to report to EPA?
 Use the calculated result rounded (308.41 metric tons)
 Enter my own result (value will be rounded)

Report this value (metric tons CH₄)

[← BACK](#) [NEXT →](#)

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If you click to enter you own value, you are then provided a box in which to do so.

Again if you do enter your own value, that EPA will follow up with you during the verification process with an e-GGRT message asking for an explanation as to why you used a different value.

After you enter your value, click NEXT

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (8)



e-GGRT Help

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

[Subpart Overview](#) » [GHG Reporting](#)

CH₄ EMISSIONS (FOR LANDFILLS WITH A GAS COLLECTION SYSTEM)

Landfills with gas collection systems are required to report CH₄ generation, CH₄ generation adjusted for oxidation, and CH₄ emissions values using the methodology in section 98.463. For additional information, please use the e-GGRT Help link(s) provided.

Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

- ↳ [Equation TT-1 Summary and Result](#)
- ↳ **Equation in table HH-3 Summary and Result**
- ↳ [Equation HH-4 Summary and Result](#)
- ↳ [Equation HH-5 Summary and Result](#)
- ↳ [Equation HH-6 Summary and Result](#)
- ↳ [Equation HH-7 Summary and Result](#)
- ↳ [Equation HH-8 Summary and Result](#)

Estimated gas collection system efficiency — Eq. in table HH-3 (decimal fraction)

0.33

EQUATION IN TABLE HH-3 SUMMARY AND RESULT

$$CE_{ave} = (A2 \times CE2 + A3 \times CE3 + A4 \times CE4 + A5 \times CE5 +) / A2 + A3 + A4 + A5$$

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

A2	A3	A4	A5	Calculated Result
25,000.00	25,000.00	25,000.00	20,000.00	0.56

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You are taken to the Equation in Table HH-3 which is for the average collection efficiency. This is also based on previously entered values on surface area by area type from the Estimated Waste Depths page.

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (9)



CH₄ EMISSIONS (FOR LANDFILLS WITH A GAS COLLECTION SYSTEM)

Landfills with gas collection systems are required to report CH₄ generation, CH₄ generation adjusted for oxidation, and CH₄ emissions values using the methodology in section 98.463. For additional information, please use the e-GGRT Help link(s) provided.

Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

- ▷ Equation TT-1 Summary and Result
- ▷ **Equation in table HH-3 Summary and Result**
- ▷ Equation HH-4 Summary and Result
- ▷ Equation HH-5 Summary and Result
- ▷ Equation HH-6 Summary and Result
- ▷ Equation HH-7 Summary and Result
- ▷ Equation HH-8 Summary and Result

EQUATION IN TABLE HH-3 SUMMARY AND RESULT

$$CE_{ave} = (A2 \times CE2 + A3 \times CE3 + A4 \times CE4 + A5 \times CE5) / A2 + A3 + A4 + A5$$

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

A2	A3	A4	A5	Calculated Result
25,000.00	25,000.00	25,000.00	20,000.00	0.56

What result do you want to report to EPA?

Use the calculated result rounded

Enter my own result (value will be rounded)

[←BACK](#) [NEXT→](#)

Estimated gas collection system efficiency — Eq. in table HH-3 (decimal fraction) **0.33**

36

Again you can accept the calculated value or enter your own.

Then click NEXT

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (10)



e-GGRT Help

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

[Subpart Overview](#) » [GHG Reporting](#)

CH₄ EMISSIONS (FOR LANDFILLS WITH A GAS COLLECTION SYSTEM)

Landfills with gas collection systems are required to report CH₄ generation, CH₄ generation adjusted for oxidation, and CH₄ emissions values using the methodology in section 98.463. For additional information, please use the e-GGRT Help link(s) provided.

Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

- ▷ [Equation TT-1 Summary and Result](#)
- ▷ [Equation in table HH-3 Summary and Result](#)
- ▷ **Equation HH-4 Summary and Result**
- ▷ [Equation HH-5 Summary and Result](#)
- ▷ [Equation HH-6 Summary and Result](#)
- ▷ [Equation HH-7 Summary and Result](#)
- ▷ [Equation HH-8 Summary and Result](#)

Recovered CH₄ — Eq. HH-4 (metric tons)

EQUATION HH-4 SUMMARY AND RESULT

$$R = \sum_{n=1}^N \left((V)_n \times (K_{MC})_n \times \frac{(C)}{100\%} \times 0.0423 \times \frac{520^\circ R}{(T)_n} \times \frac{(P)_n}{1 \text{ atm}} \times \frac{0.454}{1,000} \right)$$

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

37

Next is the page for Eq HH-4. This is the one equation that is not automatically calculated because e-GGRT does not collect all of the inputs.

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (11)



the bottom of each equation summary and result page to move consecutively through the equations.

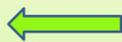
- ▷ Equation TT-1 Summary and Result
- ▷ Equation in table HH-3 Summary and Result
- ▷ **Equation HH-4 Summary and Result**
- ▷ Equation HH-5 Summary and Result
- ▷ Equation HH-6 Summary and Result
- ▷ Equation HH-7 Summary and Result
- ▷ Equation HH-8 Summary and Result

EQUATION HH-4 SUMMARY AND RESULT

$$R = \sum_{n=1}^N \left((V)_n \times (K_{MC})_n \times \frac{(C)}{100\%} \times 0.0423 \times \frac{520^\circ R}{(T)_n} \times \frac{(P)_n}{1 \text{ atm}} \times \frac{0.454}{1,000} \right)$$

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

Note: The e-GGRT system cannot calculate the result of Equation HH-4 because the input parameters to Equation HH-4 are not required to be reported. Therefore, you must calculate the value of Equation HH-4 and enter the result below.

Annual quantity of recovered CH₄ (metric tons CH₄) 

 Use Subpart HH-4 equation spreadsheets to calculate

Spreadsheets are also available for calculating inputs to Equation HH-4.

[←BACK](#) [NEXT→](#)

38

This Equation is handled similarly to the previous version of e-GGRT. You must calculate it yourself. You may use the calculation spreadsheet via the link on this page to calculate the result which you must then enter into the red box.

Although not shown on this slide, you can hover over an equation term to see how it is defined.

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (12)



e-GGRT Help

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

Subpart Overview » GHG Reporting

CH₄ EMISSIONS (FOR LANDFILLS WITH A GAS COLLECTION SYSTEM)

Landfills with gas collection systems are required to report CH₄ generation, CH₄ generation adjusted for oxidation, and CH₄ emissions values using the methodology in section 98.463. For additional information, please use the e-GGRT Help link(s) provided.

Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

- ↳ Equation TT-1 Summary and Result
- ↳ **Equation in table HH-3 Summary and Result**
- ↳ Equation HH-4 Summary and Result
- ↳ Equation HH-5 Summary and Result
- ↳ Equation HH-6 Summary and Result
- ↳ Equation HH-7 Summary and Result
- ↳ Equation HH-8 Summary and Result

Estimated gas collection system efficiency — Eq. in table HH-3 (decimal fraction) **0.33**

EQUATION HH-5 SUMMARY AND RESULT

$$MG = G_{CH_4} \times (1 - OX)$$

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

GCH ₄	OX	Calculated Result
876.81	0.1	789.13

39

The system continues to walk through the rest of the calculations which are handled the same way as Equation TT-1. The system calculates the result and you can either accept the result or enter your own result. At the bottom of each page, click NEXT until you finish with Equation HH-8.

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (13)



the equations.

- ▷ Equation TT-1 Summary and Result
- ▷ Equation in table HH-3 Summary and Result
- ▷ Equation HH-4 Summary and Result
- ▷ Equation HH-5 Summary and Result
- ▷ **Equation HH-6 Summary and Result**
- ▷ Equation HH-7 Summary and Result
- ▷ Equation HH-8 Summary and Result

- EQUATION HH-6 SUMMARY AND RESULT

$$\text{Emissions} = [(G_{CH_4} - R) \times (1 - OX) + R \times (1 - (DE \times F_{Dest}))]$$

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

Note: The Equation HH-6 input G_{CH_4} is determined by the system to be the larger of the Equation TT-1 result or the Equation HH-4 result.

Equation TT-1 result : (metric tons CH4)
Equation HH-4 result : (metric tons CH4)

G_{CH_4}	R	OX	DE	F_{Dest}	Calculated Result
16,000.00	0.1	1	1	1	

What result do you want to report to EPA?

Use the calculated result rounded

Enter my own result (value will be rounded)

[← BACK](#) [NEXT →](#)

40

One note on the page displaying the result of Equation HH-6 for methane generation.

The page displays the results of both Equation TT-1 and Equation HH-4. Recall that Equation HH-6 is constructed so that you are to use with the modeled methane generation rate from Equation TT-1 or the quantity of recovered methane from Equation HH-4, whichever is greater. E-GGRT automatically chooses the larger of the two. This is so that the result of Equation HH-6 is not a negative value.

Again, you can accept the calculated result or enter your own.

Then click NEXT.

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (14)



Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

- ▷ Equation TT-1 Summary and Result
- ▷ Equation in table HH-3 Summary and Result
- ▷ Equation HH-4 Summary and Result
- ▷ Equation HH-5 Summary and Result
- ▷ Equation HH-6 Summary and Result
- ▷ Equation HH-7 Summary and Result
- ▷ **Equation HH-8 Summary and Result**

EQUATION HH-8 SUMMARY AND RESULT

$$\text{EMISSIONS} = \left[\left(\frac{R}{CE \times f_{rec}} - R \right) \times (1 - OX) + R \times (1 - (DE \times f_{Dest})) \right]$$

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

R	CE	f _{rec}	OX	DE	F _{Dest}	Calculated Result
258,965.00	0.61	0.997	0.1	1.00	1	150,057.80

What result do you want to report to EPA?

Use the calculated result rounded
 Enter my own result (value will be rounded)

When you are done with the page for Equation HH-8, which is the last equation, click FINISHED

Subpart TT: Methane Generation and Emissions for Landfills with Gas Collection (15)



CH₄ EMISSIONS (FOR LANDFILLS WITH A GAS COLLECTION SYSTEM)

Landfills that have a landfill gas collection system are required to report two sets of CH₄ generation and CH₄ emissions values. CH₄ generation, adjusted for oxidation, must be reported as calculated using both Equations HH-5 and HH-7, and CH₄ emissions must be reported as calculated using both Equations HH-6 and HH-8. For additional information, please use the e-GGRT Help link(s) provided.

Select a specific equation below to review the equation summary and result that will appear in your annual GHG report. Alternatively, select the NEXT or BACK buttons at the bottom of each equation summary and result page to move consecutively through the equations.

- ↳ Equation HH-1 Summary and Result
- ↳ Equation in table HH-3 Summary and Result
- ↳ Equation HH-4 Summary and Result
- ↳ Equation HH-5 Summary and Result
- ↳ Equation HH-6 Summary and Result
- ↳ Equation HH-7 Summary and Result
- ↳ Equation HH-8 Summary and Result



SUMMARY AND RESULT

Equation	CH ₄
Total annual modeled CH ₄ generation (HH-1)	876.81
Annual quantity of recovered CH ₄ generation (HH-3)	0.56
Total annual modeled CH ₄ generation (HH-4)	550
Modeled CH ₄ generation, adjusted for oxidation (HH-5)	789.13
CH ₄ emissions from the landfill in the reporting year (HH-6)	299.63
Measured CH ₄ generation, adjusted for oxidation (HH-7)	886.35
CH ₄ emissions from the landfill in the reporting year (HH-8)	396.85

LANDFILL GAS COLLECTED FOR DESTRUCTION

Annual volume of landfill gas collected for destruction (scf)

A missing data procedure was used to determine the volume (check if true)

42

You are taken you back to this page to view all of your equation results. I was having some trouble getting the calculated results on the Staging Server, so I punted and am showing the full results page from subpart HH. This will look the same as the one for subpart TT, except it will say Equation TT-1 and TT-6 instead of HH-1 and HH-5. This slide will be corrected before the webinar is posted on the website.

If you want, you can click on any of the Equation links in the top box to go back to the page for that Equation.

If all is OK, click SAVE and then Subpart Overview at the bottom of the page. Not shown on this slide, but there is still the NEXT button at the bottom of this page but if you keep clicking NEXT it will take you through all of the individual equation pages again.

Data Entry is Complete (1)

United States Environmental Protection Agency

e-GGRT Help

HH-C Landfill 2

Subpart TT: Industrial Waste Landfills (2012)

Subpart Overview

OVERVIEW OF SUBPART REPORTING REQUIREMENTS

Subpart TT requires industrial waste landfills to report methane (CH₄) generation and emissions quantities. First, provide the information requested in the Landfill Details page and e-GGRT will determine what additional information is required for reporting based on the information you provide about your landfill. Next, identify each waste stream placed into the landfill and provide the associated information requested by e-GGRT. For additional information about Subpart TT reporting, please use the e-GGRT Help link(s) provided.

EPA has finalized a rule that defers the deadline for reporting certain data elements used as inputs to emission equations for direct emitters until March 31, 2015. See 76 FR 53057 (published August 25, 2011) and 77 FR 48072 (concerning additional inputs in this subpart, published August 13, 2012). In accordance with the rule, e-GGRT is not currently collecting this subset of inputs to emission equations. If you choose to report these inputs to EPA by including them in a file uploaded to this page, please note that the inputs may be subject to public release.

Subpart TT: View Validation

Reporting Information

Reporting Information	
Landfill Details	OPEN
Methane Generation and Emissions for Landfills with LFG Collection Systems	OPEN
Estimated Waste Depths	OPEN

WASTE STREAM SUMMARY

Name/ID	Status	Delete
Waste Stream 1	Incomplete	X

[ADD a Waste Stream](#)

[Facility Overview](#)

Paperwork Reduction Act Burden Statement | Contact Us

e-GGRT RY2012.R.27 | TT(overview)

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Now you are back at the Subpart Overview page. If you are all done with your report for this subpart, then click Facility Overview. At this point, you should have completed entering all your data and checking and/or correcting all of your validation messages.

That completes the module for Subpart TT.

Next we will move onto Subpart II for Industrial Wastewater Treatment.

Subpart II – Inputs to be Reported



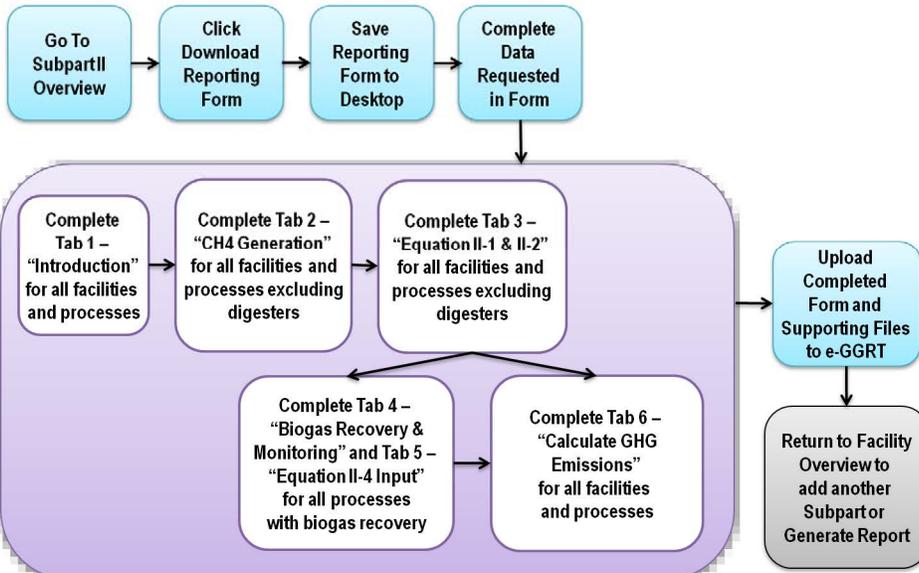
- Weekly average COD or BOD₅ concentration of wastewater entering each anaerobic wastewater treatment process
- Volume of wastewater entering each anaerobic wastewater treatment process for each week the anaerobic process was operated
- Maximum CH₄ production potential (B₀) and Methane conversion factor (MCF) from Table II-1 to this subpart
- Annual mass of CH₄ generated by each anaerobic wastewater treatment process used as an input to Equation II-1 or II-2 of this subpart
- Annual quantity of CH₄ recovered from each anaerobic process per Equation II-4
- Collection efficiency (CE) used in Equation II-5
- Annual operating hours and destruction efficiency of the primary and backup destruction devices

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This is a detailed list of Inputs to equations whose deferral has expired for Subpart II.

Much of what is listed is related to the methane generation equations, Equation II-1 and II-2. But also inputs related to biogas recovery and anaerobic process emissions.

Subpart II: DATA FLOW for Industrial Wastewater Treatment



45

This slide presents the flow of data entry for subpart II. It is a busy chart but the meat of it is in the purple box where a reporter completes the various tabs on the Excel reporting forms.

This is the subpart overview page for subpart II.

It has not changed from previous versions. At Arrow #1 you can download the reporting form. Please make sure to download this new reporting form as it is very different from past year's forms.

At Arrow #2 is where you upload the form once you have completed it.



Subpart II: Completing Reporting Forms: 1. Introduction (2)

D38 Anaerobic Shallow Lagoon

Subpart II - Industrial Wastewater Treatment
1.) Introduction

Worksheet Instructions:

Fill out the tables in this worksheet in sequential order as follows:

- 1.) Fill out the table with general information about this facility.
- 2.) In e-GGRT, provide a separate file with either a description or a diagram of the facility wastewater treatment system [§98.356(a)]
- 3.) Identify all anaerobic processes at the facility [§98.356(a)]
- 4.) Continue to worksheet '2. CH₄ Generation' for all processes except Anaerobic Sludge Digesters; complete worksheet '3. Equation II-1& II-2' for all processes except Anaerobic Sludge Digesters; complete worksheet '4. Biogas Recovery & Monitoring' for all processes; complete worksheet '5. Equation II-4' all processes; complete worksheet '6. Calculate GHG Emissions' for all processes.

Version:
R.02

External Links:

Subpart II Resources Page: <http://www.epa.gov/climatechange/emissions/subpartii.html>
 Reporting Form Help Content: <http://www.codsupport.com/confluence/display/help/Reporting+Form+Instructions>
 Optional Calculation Workbook: <http://www.codsupport.com/confluence/display/help/Optional+Calculation+Spreadsheet+Instructions>

Workbook Navigation:

1. Introduction
2. CH₄ Generation
3. Equation II-1& II-2
4. Biogas Recovery & Monitoring
5. Equation II-4 Input
6. Calculate GHG Emissions
7. Table II-1& Table II-2 Reference

1.) Fill out the following table with general information about this facility:

Facility Name:	
GHGRP ID:	
Reporting Period:	
Comments: (optional)	

2.) In e-GGRT, provide a separate file with either a description or a diagram of the facility wastewater treatment system [§98.356(a)]

48

This slide focuses in on the top of Worksheet 1.

The top section is the same on each worksheet. It consists of the introductory language, some key links to both the help content for subpart II and other resources about the subpart such as the rule language itself. There are also links to the other tabs.

Section 1 is where you enter information about your facility including your facility name, e-GGRT ID, and any comments or details that you think we need to know about. As in previous reporting years, it is important to match the facility name and e-GGRT ID to those given to you when you registered for e-GGRT.

Section 2 in this tab asks for the diagram and description of the wastewater treatment system at your facility. As in previous reporting years, you will need to attach a separate file with this information to the Subpart Overview page for your facility.

Subpart II: Completing Reporting Forms: 1. Introduction (3)



3.) Identify all anaerobic processes at the facility (§98.356(a))

Unique Identifier	Anaerobic Process	Describe the Process			Describe Biogas Recovery
		Indicate what diagram or document uploaded to e-GGRT (per number 2 above) pertains to this process	If you identified an anaerobic lagoon, what is the average depth of the lagoon (meters)?	Does the facility measure COD or BOD ₅ concentration of the wastewater entering the anaerobic process? (§98.356(b)(1))	Is biogas that is generated in the process recovered?
Shallow Lagoon 1					

4.) Complete worksheet '2. CH₄ Generation' for all Anaerobic reactors, deep lagoons, and shallow lagoons, and confirm results on worksheet '3. Equation II-1 & II-2'

5.) Complete worksheet '4. Biogas Recovery & Monitoring' and '5. Equation II-4 Input' for all processes from which biogas is recovered

1. Introduction / 2. CH₄ Generation / 3. Equation II-1 & II-2 / 4. Biogas Recovery & Monitoring / 5. Equation II-4 Input / 6. Calculate GHG Emissions / 7. Table II-1, II

49

Section 3 is where you enter information about each anaerobic process at your facility. As shown here, when you click on each cell, a yellow comment box will appear with an additional brief description of the information you need to enter in that cell.

It is important to note that the Unique Identifier ("Shallow Lagoon 1" in this example) needs to be the same across all tabs in the reporting form.

Section 4 notes that worksheet 2. CH₄ Generation should be completed for all lagoons and anaerobic reactors with results confirmed in worksheet 3. Equation II-1 & II-2.

Section 5 notes that worksheets 4. Biogas Recovery & Monitoring and 5. Equation II-4 Input should be completed for all processes with biogas recovery.

All facilities are required to complete worksheet 6. Calculate GHG Emissions.

Subpart II: Completing Reporting Forms: 1. Introduction (4)



3.) Identify all anaerobic processes at the facility (§98.356(a))

Unique Identifier	Anaerobic Process	Describe the Process			Describe Biogas Recovery
		Indicate what diagram or document uploaded to e-GGRT (per number 2 above) pertains to this process	If you identified an anaerobic lagoon, what is the average depth of the lagoon (meters)?	Does the facility measure COD or BOD ₅ concentration of the wastewater entering the anaerobic process? (§98.356(b)(1))	Is biogas that is generated in the process recovered?
Shallow Lagoon 1	Anaerobic Shallow Lagoon				
	Anaerobic Reactor				
	Anaerobic Floating Lagoon				
	Anaerobic Deep Lagoon				
	Anaerobic Sludge Digester				
	process from the list				

4.) Complete worksheet '2. CH4 Generation' for all Anaerobic reactors, deep lagoons, and shallow lagoons, and confirm results on worksheet '3. Equation II-1 & II-2'

5.) Complete worksheet '4. Biogas Recovery & Monitoring' and '5. Equation II-4 Input' for all processes from which biogas is recovered

1. Introduction / 2. CH4 Generation / 3. Equation II-1 & II-2 / 4. Biogas Recovery & Monitoring / 5. Equation II-4 Input / 6. Calculate GHG Emissions / 7. Table II-1

Back to Section 3. After a Unique Identifier is indicated, the next column contains a pull down list for you to choose the type of anaerobic process. After you choose the appropriate process, indicate the name of the document that you will attach with the description and/or diagram of your wastewater process.

Also, if a cell is blacked out, please do not enter any data into it. A blacked out cell indicates that data entry is not allowed in that cell. For instance, the average depth of anaerobic lagoons should not be filled in unless the anaerobic process indicated is an anaerobic lagoon. As you can see above in the first row, the column for average depth is no longer blacked out once a lagoon is indicated as the anaerobic process.

In the next column facilities will indicate whether they measure COD or BOD5 for every anaerobic process listed. If an anaerobic sludge digester is indicated as the anaerobic process, the corresponding cell in COD/BOD5 column will be blacked out, since a response to this question is not required for anaerobic sludge digesters.

In the next column, facilities must indicate if biogas is recovered for each process indicated.

All facilities that have anaerobic reactors or lagoons will then proceed to worksheet 2. CH4 Generation.

It is important to note that as with any data entry, please make sure you save the file periodically so that you do not lose any data that you've entered.

In addition, please do not skip any rows when entering data into tables. This can cause errors in the data collection software.

Subpart II: Completing Reporting Forms: 2. CH₄ Generation (3)



	K	L	M	N	O	P	Q	R
22								
23							If COD is measured, apply Equation II-1	If BOD ₅ is measured, apply Equation II-2
24	Confirm the CH ₄ production potential (Bo) [§98.356(b)(3)]	What Bo value do you want to report to EPA? (Calculated result initially selected by default)	CH ₄ production potential (Bo) [§98.356(b)(3)] Use alternate value from Table II-1	Confirm the Methane Conversion Factor (MCF). [§98.356(b)(4)]	What MCF value do you want to report to EPA? (Calculated result initially selected by default)	Methane Conversion Factor Value (MCF) [§98.356(b)(4)] Use alternate value from Table II-1	CH ₄ G _a = Annual mass CH ₄ generated from the anaerobic wastewater treatment process (metric tons CH ₄)	CH ₄ G _a = Annual mass CH ₄ generated from the anaerobic wastewater treatment process (metric tons CH ₄)
25					A3		0	0
26		0.25 Enter own value			0.2 Use the value provided			0 N/A
27		Use the value provided			0.2 Use the value provided			0 N/A
28		Use the value provided			0.2 Use the value provided			0 N/A
29		Use the value provided			0.2 Use the value provided			0 N/A
30		Use the value provided			0.2 Use the value provided			0 N/A
31		Use the value provided			0.2 Use the value provided			0 N/A
32		Use the value provided			0.2 Use the value provided			0 N/A
33		Use the value provided			0.2 Use the value provided			0 N/A
34		Use the value provided			0.2 Use the value provided			0 N/A
35		Use the value provided			0.2 Use the value provided			0 N/A
36		Use the value provided			0.2 Use the value provided			0 N/A
37		Use the value provided			0.2 Use the value provided			0 N/A
38		Use the value provided			0.2 Use the value provided			0 N/A
39		Use the value provided			0.2 Use the value provided			0 N/A
40		Use the value provided			0.2 Use the value provided			0 N/A
41		Use the value provided			0.2 Use the value provided			0 N/A
42		Use the value provided			0.2 Use the value provided			0 N/A
43		Use the value provided			0.2 Use the value provided			0 N/A
44		Use the value provided			0.2 Use the value provided			0 N/A
45		Use the value provided			0.2 Use the value provided			0 N/A
46		Use the value provided			0.2 Use the value provided			0 N/A
47		Use the value provided			0.2 Use the value provided			0 N/A
48		Use the value provided			0.2 Use the value provided			0 N/A
49		Use the value provided			0.2 Use the value provided			0 N/A
50		Use the value provided			0.2 Use the value provided			0 N/A
51		Use the value provided			0.2 Use the value provided			0 N/A
52		Use the value provided			0.2 Use the value provided			0 N/A
53		Use the value provided			0.2 Use the value provided			0 N/A
54		Use the value provided			0.2 Use the value provided			0 N/A
55		Use the value provided			0.2 Use the value provided			0 N/A
56		Use the value provided			0.2 Use the value provided			0 N/A

53

The remainder of worksheet 2, which could not fit on the previous slides, asks for reporters to confirm the CH₄ production potential (Bo) and the methane conversion factor (MCF) in columns L and O for all reactors and lagoons. The values provided in columns K and N are used by default and are calculated by the spreadsheet based on whether facilities monitor COD/BOD₅ (for Bo) and the type of process indicated (for MCF). In the unlikely event that reporters need to override these values, the dropdown shown above has an option to “Enter own value”. In this case, column M or P will no longer be blacked out, and alternate values can be entered. However, only values listed in Table II-1 (available in worksheet 7 for reference) can be used to override the spreadsheet-generated value.

The spreadsheet will then calculate the results of Equation II-1 or II-2 depending on whether BOD₅ or COD is measured.

Optional Calculation spreadsheets are also available for the subpart II equations, such as Equation II-3 on this slide. The spreadsheets can be accessed via the help links on the subpart overview page. They follow the same format as previous years so we will not cover them in detail here. As before these spreadsheets should not be provided to EPA. Instead they should be part of the facility’s recordkeeping.

Slide 53

A3

They should not be allowed to override... But I'm not sure if SAIC is making this change.

aba, 2/13/2013

Subpart II: Completing Reporting Forms:
3. Equation II-1 & II-2 (1)



Subpart II - Industrial Wastewater Treatment
3.) Equation II-1 & II-2

Worksheet Instructions:
Fill out the tables in this worksheet in sequential order as follows:
1.) Complete the table for each anaerobic reactor, deep lagoon, and shallow lagoon identified on tab 1 (Introduction)

Version:
R.02

External Links:
Subpart II Resources Page: <http://www.epa.gov/climatechange/emissions/subpartii.html>
Reporting Form Help Content: <http://www.ccdsupport.com/confluence/display/Help/Reporting+Form+Instructions>
Optional Calculation Workbook: <http://www.ccdsupport.com/confluence/display/Help/Optional+Calculation+Spreadsheet+Instructions>

Workbook Navigation:
1. Introduction
2. CH₄ Generation
3. Equation II-1 & II-2
4. Biogas Recovery & Monitoring
5. Equation II-4 Input
6. Calculate GHG Emissions
7. Table II-1 & Table II-2 Reference

1.) Complete the table for each anaerobic reactor, deep lagoon, and shallow lagoon process identified on tab 1 (Introduction)

Unique Identifier	Anaerobic Process	CH ₄ G ₀ = Annual mass CH ₄ generated from the anaerobic wastewater treatment process (metric tons CH ₄) ----- Calculated Result of Equation II-1 or II-2 from Tab 2. CH ₄ Generation	What result do you want to report to EPA? (Calculated result initially selected by default unless otherwise indicated)	CH ₄ G ₀ = Annual mass CH ₄ generated from the anaerobic wastewater treatment process (metric tons CH ₄) ----- User Override	CH ₄ G ₀ = Annual mass CH ₄ generated from the anaerobic wastewater treatment process (metric tons CH ₄) ----- Value that will be included in report
Shallow Lagoon 1	Anaerobic Shallow Lagoon	0	Enter my own result (value will be rounded)	0	0
		0	Use the calculated result rounded	0	0
		0	Use the calculated result rounded	0	0
		0	Use the calculated result rounded	0	0
		0	Use the calculated result rounded	0	0
		0	Use the calculated result rounded	0	0
		0	Use the calculated result rounded	0	0
		0	Use the calculated result rounded	0	0
		0	Use the calculated result rounded	0	0
		0	Use the calculated result rounded	0	0

2.) Complete worksheet '4. Biogas Recovery & Monitoring' and '5. Equation II-4 Input' for all processes from which biogas is recovered

3.) Complete worksheet '6. Calculate GHG Emissions' for all processes.

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Worksheet 3. Equation II-1 & II-2 will automatically pull in results of Equations II-1 or II-2 for each anaerobic process indicated in worksheet 1. Introduction.

The spreadsheet default is to use the calculated result, which will be displayed in column H as the value that will be included in the report; however, facilities may override this value by selecting “Enter my own result (value will be rounded)” in column F. Once this is selected, as shown above, the appropriate cell in column G will be activated and data can be entered there. Column H will then contain the user override value and this is what will be included in the report.

Please note, if you do choose to enter your own value other than what is calculated by the spreadsheet, you will likely be contacted by EPA during the report verification process and asked to explain the differences in the calculated and user-provided values.

Subpart II: Completing Reporting Forms: 4. Biogas Recovery & Monitoring (4)



	A	B	C	D	E	F	G	H
	Is the biogas temperature incorporated into the monitoring equipment internal calculations? [§98.310(i)(4)]	If biogas temperature is not incorporated into the monitoring equipment, provide the weekly average biogas temperature for each week at which flow is measured for biogas collected for destruction (%) [§98.356(i)(4)]	Is the biogas pressure incorporated into the monitoring equipment internal calculations? [§98.310(i)(5)]	If biogas pressure is not incorporated into the monitoring equipment, provide the weekly average biogas pressure for each week at which flow is measured for biogas collected for destruction (atm) [§98.356(i)(6)]	Is the moisture content for the biogas incorporated into the monitoring equipment internal calculations? [§98.356(i)(5)]	If the moisture content is not incorporated into the monitoring equipment, indicate whether the biogas flow is measured on a wet or dry basis. [§98.356(i)(5)]	If the moisture content is not incorporated into the monitoring equipment, indicate whether the CH ₄ concentration in the biogas flow is measured on a wet or dry basis. [§98.356(i)(5)]	If moisture content for the biogas is not incorporated into the monitoring equipment and is not consistently measured on a wet or dry basis for both biogas flow and CH ₄ concentration, provide the weekly average moisture content of the biogas flow for each week at which flow is measured for biogas collected for destruction (cubic feet water per cubic feet biogas) [§98.356(i)(5)]
24								
25	Yes		Yes		Yes			
26	No		No		No	Wet Basis	Wet Basis	
27	No		No		No	Wet Basis	Dry Basis	
28		Temperature in Internal Calcs Indicate yes or no						
29								
30								
31								
32								
33								
34								
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41								
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49								

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The remainder of worksheet 4, which could not fit on the previous slides, requires input of biogas temperature, pressure, and moisture content data for continuously monitoring facilities.

As you can see above (the first row), where temperature, pressure and moisture content are incorporated into internal monitoring equipment calculations, no additional answers are required.

If temperature and pressure are not incorporated into monitoring equipment (second and third rows), weekly average biogas temperature is required in column B and weekly average biogas pressure is required in column D.

If the moisture content is not incorporated into monitoring equipment and biogas flow and CH₄ concentration are both measured on the same basis (both wet or both dry), moisture content is not required to be entered in column H. However, if biogas flow and CH₄ concentration are measured on a different basis (one wet and one dry), the moisture content must be entered in column H.

It is important to note that in columns B, D and H, if the values given are outside of the range expected by EPA, a warning message will appear asking you if you wish to revised your value or continue with the value as entered. These warning messages are present throughout the worksheets.

Subpart II: Completing Reporting Forms: 5. Equation II-4 Input (1)



Subpart II - Industrial Wastewater Treatment
5.) Equation II-4 Input

Worksheet Instructions:
Fill out the tables in this worksheet in sequential order as follows:
1.) Complete the table for those anaerobic process units identified on tab 1 (Introduction) that have biogas recovery

Version:
R.02

External Links:
Subpart II Resources Page: <http://www.epa.gov/climatechange/emissions/subpartii.html>
Reporting Form Help Content: <http://www.ccdsupport.com/confluence/display/help/Reporting+Form+Instructions>
Optional Calculation Workbook: <http://www.ccdsupport.com/confluence/display/help/Optional+Calculation+Spreadsheet+Instructions>

Workbook Navigation:
1. Introduction
2. CH₄ Generation
3. Equation II-1 & II-2
4. Biogas Recovery & Monitoring
5. Equation II-4 Input
6. Calculate CH₄ Emissions
7. Table II-1 & Table II-2 Reference

1.) Complete the table for those anaerobic process units identified on tab 1 (Introduction) that have biogas recovery

Unique Identifier	Anaerobic Process	R_c = Annual quantity of CH ₄ recovered from the anaerobic reactor, sludge digester, or lagoon (metric tons CH ₄ /yr) Calculated Using Equation II-4	What result do you want to report to EPA? (Calculated result initially selected by default unless otherwise indicated)	R_r = Annual quantity of CH ₄ recovered from the anaerobic reactor, sludge digester, or lagoon (metric tons CH ₄ /yr) User Override Value	R_e = Annual quantity of CH ₄ recovered from the anaerobic reactor, sludge digester, or lagoon (metric tons CH ₄ /yr) Value that will be included in report
Digester	Anaerobic Sludge Digester		Enter my own result (value will be rounded)		0
			Use the calculated result rounded		0
			Use the calculated result rounded		0
			Use the calculated result rounded		0
			Use the calculated result rounded		0
			Use the calculated result rounded		0
			Use the calculated result rounded		0
			Use the calculated result rounded		0
			Use the calculated result rounded		0
			Use the calculated result rounded		0
			Use the calculated result rounded		0
			Use the calculated result rounded		0

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Worksheet 5. Equation II-4 Input must be completed for all anaerobic processes identified in worksheet 1 that have biogas recovery.

Each unique identifier can be selected from a drop-down menu in column C. This will populate column D with the correct anaerobic process.

For each process with recovery, Equation II-4 must be calculated separately, and the result should be entered in column E. You can use the calculation spreadsheet available through the e-GRRT Help Content. This is because the system does not collect all of the inputs needed to calculate Equation II-4, so you must calculate it yourself. Although worksheet #5 is structured as the other ones allowing you to override your value, this is really not correct for this instance. In this case, since you must always enter your own value, you can complete this worksheet one of two ways after you enter your calculated value: either choose "Enter my own result" in column F and enter your calculated value again in column G or choose "Use the calculated result rounded" and column G will black out. The latter one obviously has less effort, but you can do it either way. Either way, be sure that the correct result ends up on column H so that your report will be accurate.

Subpart II: Completing Reporting Forms: 5. Equation II-4 Input (2)



Subpart II - Industrial Wastewater Treatment
5.) Equation II-4 Input

Worksheet Instructions:
Fill out the tables in this worksheet in sequential order as follows:
1.) Complete the table for those anaerobic process units identified on tab 1 (Introduction) that have biogas recovery

Version:
R.02

External Links:
Subpart II Resources Page: <http://www.epa.gov/climatechange/emissions/subpartii.html>
Reporting Form Help Content: <http://www.ccrsupport.com/confluence/display/help/Reporting+Form+Instructions>
Optional Calculation Workbook: <http://www.ccrsupport.com/confluence/display/help/Optional+Calculation+Spreadsheet+Instructions>

Workbook Navigation:
1. Introduction
2. CH₄ Generation
3. Equation II-1 & II-2
4. Biogas Recovery & Monitoring
5. Equation II-4 Input
6. Calculate CH₄ Emissions
7. Table II-1 & Table II-2 Reference

1.) Complete the table for those anaerobic process units identified on tab 1 (Introduction) that have biogas recovery

Unique Identifier	Anaerobic Process	R_a = Annual quantity of CH ₄ recovered from the anaerobic reactor, sludge digester, or lagoon (metric tons CH ₄ /yr) ----- Calculated Using Equation II-4	What result do you want to report to EPA? (Calculated result initially selected by default unless otherwise indicated)	R_a = Annual quantity of CH ₄ recovered from the anaerobic reactor, sludge digester, or lagoon (metric tons CH ₄ /yr) ----- User Override Value	R_a = Annual quantity of CH ₄ recovered from the anaerobic reactor, sludge digester, or lagoon (metric tons CH ₄ /yr) ----- Value that will be included in report
1. Shallow Lagoon 1	ONLY REQUIRED FOR BIOGAS RECOVERY		Use the calculated result		0
2.			Use the calculated result		0
3.			Use the calculated result		0
4.			Use the calculated result		0
5.			Use the calculated result		0
6.			Use the calculated result		0
7.			Use the calculated result		0
8.			Use the calculated result		0
9.			Use the calculated result		0
10.			Use the calculated result		0

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One more note on worksheet #5. If the unique identifier is selected for an anaerobic process that was indicated to have no recovery in the introduction worksheet, an error will appear in column D and all columns will be blacked out for that row as displayed here.

Subpart II: Completing Reporting Forms: 6. Calculate GHG Emissions (2)



2) Complete the table for each anaerobic treatment process for which the facility does recover biogas to calculate emissions according to Equation II-6

Unique Identifier	Anaerobic Process	Does CH ₄ destruction occur at the facility, off-site, or both? [§98.356(d)(8)]	If CH ₄ destruction occurs on-site or both, indicate whether a back-up destruction device is present at the facility [§98.356(d)(8)]	If CH ₄ destruction occurs on-site or both, indicate the annual operating hours for the primary destruction device [§98.356(d)(8)]	If CH ₄ destruction occurs on-site or both, indicate the annual operating hours for the back-up destruction device [§98.356(d)(8)]	R _n = Annual quantity of CH ₄ recovered from the anaerobic reactor, sludge digester, or lagoon (metric tons CH ₄ /yr) Output of 5, Equation II-4 Input
1						
2						
3						
4						
5						
6						
7						
8						

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Section 2 on Worksheet 6 is very long and has been broken up into several slides so that you can more clearly see the text. Section 2 must be completed for every process that does recover biogas as indicated in the introduction worksheet. As in section 1, once the unique identifier is selected the anaerobic process will be populated, along with the R_n output from worksheet 5.

Additional columns in Section 2 address CH₄ destruction. In the column after the anaerobic process, the location of CH₄ destruction should be indicated as either on-site, off-site or both on-site and off-site.

Subpart II: Completing Reporting Forms:
6. Calculate GHG Emissions (3)



F	G	H	I	J	K
If CH ₄ destruction occurs on-site or both, indicate whether a back-up destruction device is present at the facility [§98.356(d)(8)]	If CH ₄ destruction occurs on-site or both, indicate the annual operating hours for the primary destruction device [§98.356(d)(8)]	If CH ₄ destruction occurs on-site or both, indicate the annual operating hours for the back-up destruction device [§98.356(d)(8)]	R ₄ = Annual quantity of CH ₄ recovered from the anaerobic reactor, sludge digester, or lagoon (metric tons CH ₄ /yr) Output of 5. Equation II-4 Input	CE = CH ₄ collection efficiency of anaerobic process, as specified in Table II-2 (decimal)	CH ₄ L _a = Leakage at the anaerobic process (metric tons CH ₄)

Additional columns in Section 2 ask for information about CH₄ destruction.

Columns F, G and H should be filled out only if destruction occurs either on-site or both on and off-site. It's important to note that column H – annual operating hours for the back-up destruction device – should only be answered if the answer to column F is yes, there is a back-up destruction device.

Collection efficiency should be entered in column J, and must be a value from Table II-2, which is available on Worksheet 7 for your reference. Columns I and J are used to calculate the leakage value in column K.

Subpart II: Completing Reporting Forms:
6. Calculate GHG Emissions (4)



L	M	N	O
DE₁ = Primary destruction device CH₄ destruction efficiency (lesser of manufacturer's specified destruction efficiency and 0.99). If biogas is transported off-site for destruction, use DE₁=1	f_{Dest,1} = Fraction of hours the primary destruction device was operating (device operating hours/hours in the year). If biogas is transported off-site for destruction, use f_{Dest,1}=1	DE₂ = Secondary destruction device CH₄ destruction efficiency (lesser of manufacturer's specified destruction efficiency and 0.99). If biogas is transported off-site for destruction, use	f_{Dest,2} = Fraction of hours the secondary destruction device was operating (device operating hours/hours in the year). If biogas is transported off-site for destruction, use f_{Dest,2}=1
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00
	0.00		0.00

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If destruction occurs either on-site or both on and off-site, column L should be filled out for the destruction efficiency of the primary destruction device. If a secondary destruction device is present, as was indicated in column F, column N should be filled out for the destruction efficiency of that destruction device. Columns M and O will be automatically populated depending upon how previous questions were answered.

Subpart II: Completing Reporting Forms:
6. Calculate GHG Emissions (5)



O	P	Q	R	S
$f_{Destruction} =$ Fraction of gas the secondary destruction device was operating during hours in the year. If biogas is transported off-site for destruction, use $f_{Destruction} = 1$	$CH_4E_n =$ Annual mass CH_4 emissions from the anaerobic wastewater treatment process (metric tons CH_4) ----- Calculated Value	What result do you want to report to EPA? (Calculated result initially selected by default unless otherwise indicated)	$CH_4E_n =$ Annual mass CH_4 emissions from the anaerobic wastewater treatment process (metric tons CH_4) ----- User Override	$CH_4E_n =$ Annual mass CH_4 emissions from the anaerobic wastewater treatment process (metric tons CH_4) ----- Value that will be included in report
0.00	0	Use the calculated result rounded		0
0.00	0	Use the calculated result rounded		0
0.00	0	Use the calculated result rounded		0
0.00	0	Use the calculated result rounded		0
0.00	0	Use the calculated result rounded		0
0.00	0	Use the calculated result rounded		0
0.00	0	Use the calculated result rounded		0

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Column P then calculates CH_4E_n . In column Q, as in previous worksheets, the calculated result can be used, or a facility can override this value by selecting “Enter my own result (value will be rounded)” in column Q, which will then allow for data entry into the appropriate cell in column R. The value you want entered into your report for Annual emissions from each anaerobic process will then be in column S.

Subpart II: Completing Reporting Forms: 6. Calculate GHG Emissions (6)



6				
7				
8				
9				
10				

3.) Calculate facility emissions according to Equation II-7

Facility Name	CH ₄ E ₇ = Annual mass CH ₄ emitted from all anaerobic processes at the facility (metric tons)
	0

1. Introduction 2. CH₄ Generation 3. Equation II-1 & II-2 4. Biogas Recovery & Monitoring 5. Equation II-4 Input 6. Calculate GHG Emissions 7. Table II-1, II-2

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All the way at the bottom of Worksheet 6, in the red box, is the calculation for total facility emissions from all anaerobic processes. This is a basic summation of column S on the previous slide.

You are not given the opportunity to override this value since you were given the opportunity to override all of the values that go into the sum.

The last Tab on the reporting form, Tab 7 – Table II-1, II-2 is purely for reference purposes. No data entry is required on this tab.

And that concludes the reporting form data entry for Subpart II.

Once you have completed the form for your facility, upload it to e-GGRT on the Subpart Overview page at Arrow #1.

Also at this point, you should upload your supporting files including the description and/or diagram of the facility’s wastewater treatment system at Arrow #2. Please note that there is a 1MB limit to the size of this file. Do not upload any calculation spreadsheets you may have used to arrive at your equation results.

When you have uploaded your reporting form and your supporting files, you are essentially done with this subpart and can click Facility Overview (Arrow #3) to add another subpart or certify and submit your report to EPA.

Questions?



- e-GGRT Information & Help
 - <http://www.ccdsupport.com>
 - Email: ghgreporting@epa.gov
 - <http://www.epa.gov/climatechange/emissions/training.html>
- GHG Reporting Rule Information & Help
 - <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>
 - Email: ghgreporting@epa.gov
- Read more about XML Upload Option
 - http://www.epa.gov/climatechange/emissions/e-ggrrt_xml.html

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This last slide contains important websites where you may find an enormous amount of information about the GHG Reporting Program, on e-GGRT, as well as the XML option for uploading GHG emissions reports. Also listed is a key email address for questions or help requests for e-GGRT or for technical questions about the GHG Reporting Rule itself.

This concludes the e-GGRT module for subpart II and TT.