

### Petroleum and Natural Gas Systems (Subpart W) Reporting Year 2024 Form

U.S. Environmental Protection Agency Greenhouse Gas Reporting Program (GHGRP) May 1, 2025



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### Webinar Overview



- Overview of Subpart W reporting form
- Changes to the Subpart W reporting form for RY2024
- Uploading and Submitting the Subpart W reporting form
- Subpart W Resources



- RY2024 reporting form has 23 tabs, like reporting forms for previous reporting years; in addition, where applicable, it includes additional fields to report data for the optional calculation methodologies allowed in RY2024 and for a few new data elements that are required beginning with RY2024 reports.
  - New columns for reporting production from wells that were permanently shut-in and plugged in the year for the Onshore Production and Offshore Production industry segments
  - Additional columns and tables to report measured data for many emission source types that previously only allowed emission factor calculation methods
- Applicability questions on all emission source tabs now use a Yes/No drop-down picklist rather than radio buttons
- The updated Subpart W Reporting Form for RY 2024 can be downloaded at: <u>http://www.ccdsupport.com/confluence/display/help/Reporting+Form+Instructions</u>
- Links to the Optional Calculation Tool, the GHGRP Applicability Tool, and the regulations describing the changes to the reporting requirements can be found at the links provided at the end of this presentation.



Introduction (aa)(1) Onshore Production (aa)(2-11) Facility Overview (b) NG Pneumatic Devices (c) NG Driven Pneumatic Pumps (d) Acid Gas Removal Units (e) Dehydrators (f) Well Venting for Liquids Unloading (q) Completions/Workovers w/Fracturing (h) Completions/Workovers w/o Fracturing (i) Blowdown Vent Stacks (j) Atmospheric Storage Tanks

(k) Transmission Storage Tanks (I) Well Testing (m) Associated Gas Venting and Flaring (n) Flare Stacks (o) Centrifugal Compressors (p) Reciprocating Compressors (q,r) Equipment Leak Surveys and Population Counts (s) Offshore Petroleum and Natural Gas Production (w) EOR Injection Pumps (x) EOR Hydrocarbon Liquids (z) Combustion Equipment

# Introduction tab

1.) Select the applicable industry segment for this workbook using the dropdown list:

Note: One workbook must be submitted for each industry segment. If your facility is re-

Industry Segment: Offshore petroleum and natural gas production [98.230(a)(1)] Onshore petroleum and natural gas production [98.230(a)(2)] As in prior years, the Introduction tab

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

Facility Name: GHGRP ID: Reporting Period: Comments:

Note: One workbook must be submitted for each industry segment. If your
facility is required to report emissions under more than one industry
segment, a workbook should be filled out for each industry segment under
which that facility falls.

1/17/2025

Updated:

OMB Number: 2060-0751 Expiration Date: 01/31/2028

OMB Number: 2060-0629. Expiration Date: 01/31/2025

to filled out for each industry segment under which that facility falls.

**e**-GGRT Electronic Greenhouse Gas **Reporting Tool** 

Subpart W: Petroleum and Natural Gas Systems

Version R.10

As in prior years, the introduction tab	Onshore natural gas processing [98.230(a)(3)]	
requires selection of the annlicable	Onshore natural gas transmission compression [98.230(a)(4)]	
requires selection of the applicable	Underground natural gas storage [98.230(a)(5)]	
industry seament	Liquefied natural gas (LNG) storage [98.230(a)(6)]	
maastry segment.	LNG import and export equipment [98.230(a)(7)]	
	Natural gas distribution [98.230(a)(8)]	
	Onshore petroleum and natural gas gathering and boosting [98.230(a)(9)]	
Note that it now uses a drop-down list	Onshore natural gas transmission pipeline [98.230(a)(10)]	
· · · · · · · · · · · · · · · · · · ·		
instead of a radio button.		
-		

sectored to range

## Introduction tab (continued)



3.) Fill out the applicable source reporting forms for your industry segment, as indicated with a green "Yes", below:

	Required for Onshore petroleum and natural gas production [98.230(a)(2)]:	Go to Reporting Spreadsheet	Total Reported I Emissions (mt CO <sub>2</sub> )	CO2	Total Reported CH <sub>4</sub> Emissions (mt CH <sub>4</sub> )	Total Reported N <sub>2</sub> O Emissions (mt N <sub>2</sub> O)	
Dinshore Production [98.236[aa](1)]	Yes	Gio to Form	NA		NA	NA	
Facility Overview [98.236(aa)[2-11]]	No	Gio to Form	NA				
Natural Gas Pneumatic Devices [98.236(b)]	Yes	Go to Form	0.0	Th	e selected in	dustry segn	nent activates
Natural Gas Driven Pneumatic Pumps [98.236[c]]	Yes	Go to Form	0.0	linl	ks to the app	olicable sou	rces. Once
Acid Gas Removal Units [98.236(d)]	Yes	Ge te Form	completed, emissions for th		hose sources		
Dehydrators [98.236(e)]	Yes	Gio to Form	0.0	are tallied on this sheet automa		tomatically.	
Well Venting for Liquids Unloading [98.236(f)]	Yes	Gio to Form	0.0		0.00	NA	
Completions and Workovers with Hydraulic Fracturing [98.236(g)]	Yes	Go to Form	0.0		0.00	0.000	
Completions and Workovers without Hydraulic Fracturing [98.236(h)]	Yes	Go to Form	0.0		0.00	0.000	
Blowdown Vent Stacks [98.236[i]]	No	Go to Form	0.0		0.00	NIA	
Atmospheric Storage Tanks [98.236(j)]	Yes	Go to Form	0.0		0.00	0.000	
	and and			-		0.000	

an album and variation and productor processing in		Later Later	a second second		the state of the second	
Enhanced Dil Recovery Injection Pumps [98.236(w)]	Yes	<u>Go to Form</u>	0.0	NIA	NA	
Enhanced Dil Recovery Hydrocarbon Liquids [98.236(x)]	Yes	<u>Go to Form</u>	0.0	NA	NIA	
Combustion Equipment at Onshore Petroleum and Natural Gas Production Facilities, Onshore Petroleum and Natural Gas Gathering and Boosting Facilities, and Natural gas Distribution Facilities [96.236[z]]	Yes	<u>Go to Farm</u>	0.0	0.00	0.000	
						Total CO2e Emis (mt CO2e)

Totals

0.0

0.00

0.000

(mt CO<sub>2</sub>e) 0.00

## (aa)(1) Onshore Production



Onshore Petroleum and Natural Gas Production Facility Level Requirements Unde	#N/A					
Version R.10						
Worksheet Instructions:						
Each onshore petroleum and natural gas production facility must report the information specified in 98.236(aa)(1). In addition, certain well-specific requirements of 98.236(f), (g), (h), (l), and (m) should be reported below.						

Tables AA.1.i and AA.1.ii are unchanged from RY2023.

*Well-specific requirements for Onshore petroleum and natural gas production facilities are consolidated in Table AA.1.iii.* 

### Table AA.1.iii Onshore Petroleum and Natural Gas Production: Well Characterization

Well-specific requirements for facilities subject to 98.236(aa)(1) Select all applicable columns for each well						
Producing at end of calendar year? [98.236(aa)(1)(ii)(D)]	Producing well acquired during calendar year? [98.236(aa)(1)(ii)(E)]	Producing well divested during calendar year? [98.236(aa)(1)(ii)(F)]	Completed during calendar year? [98.236(aa)(1)(ii)(G)]	Permanently shut-in and plugged during calendar year? [98.236(aa)(1)(ii)(H)]	For permanently shut-in and plugged wells during the calendar year, the quantity of natural gas produced and sent to sale in the calendar year (thousand standard cubic feet mscf) [98.236(aa)(1)(iii)(C)]	For permanently shut-in and plugged wells during the calendar year, the quantity of quantity of crude oil and condensate produced and sent to sale in the calendar year (barrels) [98.236(aa)(1)(iii)(D)]

This section of Table AA.1.iii should be completed with throughput quantities for each well permanently shut-in and plugged during the calendar year for the Onshore Production industry segment beginning with RY2024 reports.

## (aa)(1) Onshore Production



### Table AA.1.iii Onshore Petroleum and Natural Gas Production: Well Characterization

When using Equation W-10A							
Are the only wells in the sub-basin used to calculate "Measured average flowback rates", "GOR" or "Volume of oil produced" wildcat or delineation wells subject to a 2-year delay in reporting? [98.236(g)(5)(iii)(A)] [98.236(g)(5)(iii)]	Measured average flowback rate for W- 10A measured well, FR <sub>s,p</sub> (standard cubic feet per hour) [98.236(g)(5)(ii)]	Was the flow rate during the initial flowback period determined using a multiphase flowmeter upstream of a separator for any measured well in the sub-basin? [98.236(g)(5)(iv)]					

	When Using Equa	ntion W-10B
Flow volume vented or sent to a flare for each well in the sub- basin, FV <sub>s,p</sub> (standard cubic feet) [98.236(g)(6)(i)]	Flow rate at the beginning of the period of time when sufficient quantities of gas are present to enable separation of each well in the sub-basin, FR <sub>p,i</sub> (standard cubic feet per hour) [98.236(g)(6)(ii)]	If a multiphase flowmeter was used to measure the flow rate during the initial flowback period, the average flow rate measured by the multiphase flow meter from the initiation of flowback to the beginning of the period of time when sufficient quantities of gas present to enable separation, FR <sub>p,i</sub> (standard cubic feet per hour) [98.236(g)(6)(iii)]

The highlighted section of Table AA.1.iii is new to the reporting form for RY2024 for completions and workovers section of (aa)(1). It should be completed by stating if a multiphase flow meter was used to determine the flow rate during the initial flowback period. It completed using a drop-down menu with "yes" or "no" as the options. The highlighted section of Table AA. 1.iii is new to the reporting form for RY2024 for the completion and workovers section of (aa)(1). It should be completed by specifying the average flow rate measured from the initiation of flowback to the beginning of the period of time when sufficient quantities of gas are present to enable separation. If a multiphase flow meter is used, this data element is required.

## (aa)(2) Facility Overview: Offshore Production



Table AA.2. Offshore Production as per [98.236(aa)(2)]

	Total quantity of oil and condensate
Total quantity of gas handled at the offshore	handled at the offshore platform in the
platform in the calendar year	calendar year
(thousand standard cubic feet)	(barrels)
[98.236(aa)(2)(i)]	[98.236(aa)(2)(ii)]

Table AA.2 is unchanged from previous reporting years.

Table AA.2.i is new for RY2024 reporting for Offshore petroleum and natural gas production facilities.

Row ID	For each well permanently shut-in and plugged during the calendar year, the quantity of natural gas produced that is sent to sale in the calendar year (thousand standard cubic feet) [98.236(aa)(2)(iii)]	For each well permanently shut-in and plugged during the calendar year, the quantity of crude oil and condensate produced that is sent to sale in the calendar year (barrels) [98.236(aa)(2)(iv)]
1		
2		
2		

Table AA.2.i. Offshore Production Information for Each Well Permanently Shut-in and Plugged

Table AA.2.i must be completed with annual quantities of natural gas and oil and condensate for each well permanently shut-in and plugged during 2024. The table provides pre-filled row IDs for tracking.

### Natural Gas Pneumatic Device Venting



Natural Gas Pneumatic Device	/enting [98.236(b)]						
Version	R.10	Back to Summary Tab	]				
Worksheet Instructions:							
In accordance with 98.232, only the following -Onshore petroleum and natural gas pr -Onshore natural gas transmission con -Underground natural gas storage [98.2 -Onshore petroleum and natural gas ga	industry segments must report data for oduction [98.230(a)(2)] npression [98.230(a)(4)] 230(a)(5)] athering and boosting [98.230(a)(9)]	natural gas pneumatic device ventin	ng:				
Table B.1 must be completed by all facilities	with pneumatic devices subject to report	ting under 98.232.					
Table B.2 is required for all pneumatic devic	e vented emissions using calculation me	ethod 1.					
Table B.3 is required for all pneumatic devic	Table B.3 is required for all pneumatic device vented emissions using calculation method 2.						
Table B.4 is required for all pneumatic devic	Table B.4 is required for all pneumatic device vented emissions using calculation method 3.						
Table B.5 is required for all continuous high	bleed and low bleed, or intermittent blee	d pneumatic device vented emission	ins using calculation method 4.				
Table B.6.i is required for the identification o	f missing data procedures used for pneu	imatic devices using calculation met	ethod 1.				
Table B.6.ii is required for the identification of	of missing data procedures used for pne	umatic devices using calculation me	ethod 2.				
Table B.6.iii is required for the identification of missing data procedures used for pneumatic devices using calculation method 3.							
Table B.6.iv is required for the identification (	of missing data procedures used for pne	umatic devices using calculation me	ethod 4.				
External Links:							
Subpart W Resources Page	https://www.epa.gov/ghgreporting/sub	part-w-petroleum-and-natural-gas-s	<u>systems</u>				
Optional Calculation Spreadsheet	https://www.ccdsupport.com/confluen/	ce/display/help/Optional+Calculation	n+Spreadsheet+Instructions				
Help Resources	https://www.ccdsupport.com/confluen/	ce/display/help/Subpart+W+-+Petrole	leum+and+Natural+Gas+Systems				



Total Emissions for Pneumatic Device Venting				
[98.236(b)]				
mt CO <sub>2</sub>	mt CH₄	mt N₂O		
0.0	N/A			

Applicability						
Did the facility have any natural gas to reporting under 98						
		Yes				
Best Avail	No					
Were BAMM used for any parameters to calculate GHG emissions?	Provide a brief description of the BAMM used, parameter measured, and time period.	Were missing data procedures used for any parameters to calculate GHG emissions? [98.235]				
BAMM not available fo						
	Pneumatic Devices [Table B.1.i]:	CLICK HERE				
Dnoumatic Dovic	Desumatic Devices Estimated Counts (Table D.1 ii)					

	Pheumatic Devices Estimated Counts I Table B.1.III:	CLICK HERE
	Calculation Method 1 Pneumatic Device Vented Emissions [Table B.2]:	CLICK HERE
	Calculation Method 2 Pneumatic Device Vented Emissions [Table B.3]:	CLICK HERE
	Calculation Method 3 Pneumatic Device Vented Emissions [Table B.4]:	CLICK HERE
	Calculation Method 4 Pneumatic Device Vented Emissions [Table B.5]:	CLICK HERE
1	ocedures used for Pheumatic Device Emission Calculations (Table B.o);	

Missing Data Procedures Used for Pheumatic Device Emission Calculations [Table

Table B.1.i Pneumatic Devices

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e-GGR1

**Reporting Tool** 

**Electronic Greenhouse Gas** 

Type of Pneumatic Device	Total Number of Natural Gas Pneumatic Devices [98.236(b)(2)(i)]	Total Number Vented Directly to Atmosphere [98.236(b)(2)(ii)]	Total Number Vented Directly to Atmosphere for Which Emissions Were Calculated Using Calculation Method 1 [98.236(b)(2)(iv)]	Total Number Vented Directly to Atmosphere for Which Emissions Were Calculated Using Calculation Method 2 [98.236(b)(2)(v)]	Total Number Vented Directly to Atmosphere for Which Emissions Were Calculated Using Calculation Method 3 [98.236(b)(2)(vi)]	Total Number Vented Directly to Atmosphere for Which Emissions Were Calculated Using Calculation Method 4 [98.236(b)(2)(vii)]
Continuous High Bleed Pneumatic Devices	20					
Intermittent Bleed Pneumatic Devices	40					
Continuous Low Bleed Pneumatic Devices	120					
					•	•

#### Table B.1.ii Pneumatic Devices Estimated Counts

Allowed only for Onshore Petroleum and Natural Gas Production and Onshore Petroleum and Natural Gas Gathering and Boosting facilities in first or second year of reporting. Complete only if you elect to estimate the count of any type of device.

Type of Pneumatic Device	Are Any of the Device Counts Provided in Table B.1.i Estimated? (Yes / No) [98.236(b)(2)(viii)]	Specify whether the calendar year is the first calendar year of reporting or the second calendar year of reporting (First / Second) [98.236(b)(2)(viii)(C)]	Total Number, Actual Count [98.236(b)(2)(viii)(A)]	Total Number, Estimated Count [98.236(b)(2)(viii)(B)]	Total Number Vented Directly to Atmosphere, Actual Count [98.236(b)(2)(iii)] [98.236(b)(2)(viii)(A)]	Total Number Vented Directly to Atmosphere, Estimated Count [98.236(b)(2)(iii)] [98.236(b)(2)(viii)(B)]
Continuous High Bleed Pneumatic Devices	Yes					
Intermittent Bleed Pneumatic Devices	Yes	First				
Continuous Low Bleed Pneumatic Devices	Yes					

Taxal Number Versed Discusly to	Taxal Number Variated Disardu ta	Total Number Vented Directly to	Total Number Vented Directly	Total Number Vented Directly	Total Number Vented Directly to	Total Number Vented Directly to	Total Number Vented Directly
Average and the second se	Average for the second se	Atmosphere for Which Emissions	to Atmosphere for Which	to Atmosphere for Which	Atmosphere for Which Emissions	Atmosphere for Which Emissions	to Atmosphere for Which
Atmosphere for which Emissions	Atmosphere for which Emissions	₩ere Calculated Using	Emissions Were Calculated	Emissions Were Calculated	₩ere Calculated Using	Were Calculated Using	Emissions Were Calculated
were Calculated Using Calculation	were Calculated Using Calculation	Calculation Method 2	Using Calculation Method 2	Using Calculation Method 3	Calculation Method 3	Calculation Method 4	Using Calculation Method 4
	method I						
(Actual Lount)	(Estimated Count)	(Actual Count)	(Estimated Count)	(Actual Count)	(Estimated Count)	(Actual Count)	(Estimated Count)
100 0000 VOV	100 2200 1021						
[38.230(D)(2)(VIII)(A)]	[38.236(b)(2)(viii)(b)]	[98.236(b)(2)(viii)(A)]	[98.236(b)(2)(viii)(B)]	[98.236(b)(2)(viii)(A)]	[98.236(b)(2)(viii)(B)]	[98.236(b)(2)(viii)(A)]	[98.236(b)(2)(viii)(B)]

## Natural Gas Pneumatic Device Venting (Method 1)



Table B.2 Calculation Method 1 Pneumatic Device Vented Emissions

Measurement Location ID Number [98.236(b)(3)(i)]	Flow Monitor Type [98.236(b)(3)(ii)]	Number of Continuous High Bleed Natural Gas Pneumatic Devices Downstream of the Flow Monitor [98.236(b)(3)(iii)]	Number of Intermittent Bleed Devices Natural Gas Pneumatic Downstream of the Flow Monitor [98.236(b)(3)(iii)]	Number of Continuous Low Bleed Natural Gas Pneumatic Devices Downstream of the Flow Monitor [98.236(b)(3)(iii)]	Is there a Natural Gas Driven Pneumatic Pump Downstream of the Flow Monitor? [98.236(b)(3)(iv)]

Calculation Method 1 (continuous measurement) is a new **optional** reporting method for devices on a natural gas supply line with a continuous flow monitor.

Total CO <sub>2</sub> Emissions Using Calculation Method 1 (mt CO <sub>2</sub> )	Total CH <sub>4</sub> Emissions Using Calculation Method 1 (mt CH <sub>4</sub> )
[98.236(b)(3)(v)]	[98.236(b)(3)(vi)]



#### Table B.3 Calculation Method 2 Pneumatic Device Vented Emissions

If reporting for the Onshore Petroleum and Natural Gas Production, or Onshore Petroleum and Natural Gas Gathering and Boosting Industry Segments, additional inputs are required in Columns I through K.

Type of Pneumatic Device	Primary Measurement Method Used [98.236(b)(4)(i)(A)] [98.236(b)(4)(ii)(B)]	Number of Years Used in Current Measurement Cycle [98.236(b)(4)(ii)(A)]	Were Emissions from Any Natural Gas Pneumatic Devices at this Facility Calculated Using Equation W-1B? [98.236(b)(4)(ii)(C)]	Emissions Factor Calculated Using Equation W-1A (scf/hour/device) [98.236(b)(4)(ii)(D)(1)]	Total Number of Natural Gas Pneumatic Devices Measured Across All Years Upon Which the Emission Factor is Based [98.236(b)(4)(ii)(D)(2)]	Total Number of Natural Gas Pneumatic Devices that Vent Directly to the Atmosphere that Were Not Directly Measured (Count, in Equation W-1B) [98.236(b)(4)(ii)(D)(3)]
Continuous High Bleed Pneumatic Devices						
Intermittent Bleed Pneumatic Devices						
Continuous Low Bleed Pneumatic Devices						
	Esti the De	mated Average Number of Hours Calendar Year that the Pneumati evices Were-In Service, T <sub>t</sub> (hours) [98.236(b)(4)(i)(B)] [98.236(b)(4)(ii)(D)(4)]	in Total Measured CO <sub>2</sub> Emissions Usi ic Calculation Method 2 (mt CO <sub>2</sub> ) [98.236(b)(4)(i)(C)] [98.236(b)(4)(ii)(E)]	ing Total Measured CH <sub>4</sub> Emissio Using Calculation Method 2 (mt CH <sub>4</sub> ) [98.236(b)(4)(i)(D)] [98.236(b)(4)(ii)(F)]	ns 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Total CH4 Emissions Using Calculation Method 2 from Iy Devices that Were Not Directly Measured (mt CH4) [98.236(b)(4)(ii)(H)]

Calculation Method 2 (periodic measurement) is a new **optional** reporting method for devices that are measured at least once during the reporting year using a temporary flow meter, calibrated bag sampling, or high-volume sampler.

For the Onshore Production and Gathering and Boosting industry segments, certain data elements (those in the red box) are not required to be reported and will be blacked out in the reporting form. Facilities in the Transmission Compression and Underground Natural Gas Storage industry segments using Calculation Method 2 must report these data elements.

### Natural Gas Pneumatic Device Venting (Method 3)



Table B.4 Calculation Method 3 Pneumatic Device Vented Emissions

Note – The images on this slide are from Table B.4, but are presented in parts for legibility

### Reporting elements for continuous devices only

Reporting elements for intermittent devices **only** 

Type of Pneumatic Device	To Calculate Emissions, Did You Measure According to 98.233(a)(3)(i)(A) or Use Default Emission Factors According to 98.233(a)(3)(i)(B)? [98.236(b)(5)(i)(A)]	Primary Measurement Method Used [98.236(b)(5)(i)(B)]	Total Number of Natural Gas Pneumatic Devices that Vent Directly to the Atmosphere and Measured Using Default Factor [98.236(b)(5)(i)(C)(1)]	Average Estimated Number of Hours in the Calendar Year that the Pneumatic Devices Were-In Service T <sub>t</sub> (hours) [98.236(b)(5)(i)(C)(2)]
Continuous High Bleed Pneumatic Devices	98.233(a)(3)(i)(A)			
Intermittent Bleed Pneumatic Devices				
Continuous Low Bleed Pneumatic Devices	98.233(a)(3)(i)(B)			

In this example, emissions from continuous high bleed devices were measured according to 98.233(a)(3)(i)(A) [Method 2]; while emissions from continuous low bleed devices were calculated using default emission factors according to 98.233(a)(3)(i)(B) [Method 4]

Type of Pneumatic Device	 Primary Monitoring Method Used [98.236(b)(5)(ii)(A)]	Number of Complete Monitoring Surveys Conducted [98.236(b)(5)(ii)(A)]	Total Number of Intermittent Bleed Natural Gas Pneumatic Devices Detected as Malfunctioning in Any Pneumatic Device Monitoring Survey During the Calendar Year	Average Time in the Calendar Year that the Pneumatic Devices Were in Service and Assumed Malfunctioning, Average of T <sub>mat.x</sub> (hours) [98.236(b)(5)(ii)(C)]	Total Number of Intermittent Bleed Natural Gas Pneumatic Devices NOT Detected as Malfunctioning in Any Pneumatic Device Monitoring Survey During the Calendar Year 198.236(b)(5)(ii)(D)]	Average Time in the Calendar Year that the Pneumatic Devices Were in Service and Not Malfunctioning, T <sub>avg</sub> (hours) [98.236(b)(5)(ii)(E)]
Intermittent Bleed Pneumatic Devices						

### Reporting elements for all device types

Total CO <sub>2</sub> Emissions Using Calculation Method 3 (mt CO <sub>2</sub> ) [98.236(b)(5)(iii)]	Total CH₄ Emissions Using Calculation Method 3 (mt CH₄) [98.236(b)(5)(iv)]

Calculation Method 3 is a new **optional** reporting method. When electing to use this method, intermittent devices must be monitored for malfunction at least once in the calendar year, while continuous devices may either be measured (consistent with Method 2) or use default population emission factors (consistent with Method 4). Calculation Method 3 is available **only** for the Onshore Production and Gathering and Boosting industry segments.

### Natural Gas Pneumatic Device Venting (Method 4)

Table B.5 Calculation Method 4 Pneumatic Device Vented Emissions

Type of Pneumatic Device	Estimated Average Number of Hours in the Operating Year that the Pneumatic Devices Were in Service, T <sub>t</sub> (hours) [98.236(b)(6)(ii)]	Total CO <sub>2</sub> Emissions Using Calculation Method 4 (mt CO <sub>2</sub> ) [98.236(b)(6)(iii)]	Total CH <sub>4</sub> Emissions Using Calculation Method 4 (mt CH <sub>4</sub> ) [98.236(b)(6)(iv)]
Continuous High Bleed Pneumatic Devices			
Intermittent Bleed Pneumatic Devices			
Continuous Low Bleed Pneumatic Devices			

The use of default population emission factors has been retained for reporters that elect not to use Calculation Methods 1 through 3 and designated as Calculation Method 4.



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### Natural Gas Pneumatic Device Venting (Missing Data)

#### Table B.6. Missing Data Procedures Used for Pneumatic Device Emission Calculations Using Method 1

Total number of hours in the year Parameters for Calculation Method Number of quarters missing data missing data procedure was used Procedures used 1 Emissions procedures were used Measurement Location ID Measurement Frequency [98.3(c)(8)] [98.235(h)] [98.236(bb)(1)] [Table B.2] [98.236(bb)(2)]

#### Table B.6.ii Missing Data Procedures Used for Pneumatic Device Emission Calculations Using Method 2

Parameters for Calculation Method Number of quarters missing data missing data procedure was used Procedures used 2 Emissions procedures were used Type of Pneumatic Device Measurement Frequency [98.3(c)(8)] [98.235(h)] [Table B.3] [98.236(bb)(1)] [98.236(bb)(2)]

New missing data tables have been added to the reporting form associated with the new calculation methodologies. The missing data tables for Methods 3 and 4 (not pictured above) are the same as that for Method 2, except for the available parameters to select in the "Parameters for Calculation Method [#] Emissions" entry.

Total number of hours in the year

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### Natural Gas Driven Pneumatic Pumps



#### Natural Gas Driven Pneumatic Pumps [98.236(c)]

	/•		
Version R.10	Back to Summary Tab		
Worksheet Instructions:			
In accordance with 98.232, only the following industry segments mu: -Onshore petroleum and natural gas production [98.230(a)(2)] -Onshore petroleum and natural gas gathering and boosting [98.230	st report data for natural gas drive (a)(9)]	n pneumatio	; pumps:
Table C.1 must be completed by all facilities with NG driven pneuma	atic pumps subject to reporting und	der 98.232.	
Table C.2 is required for all NG driven pneumatic pumps that used c	alculation method 1 to calculate e	missions.	
Table C.3 is required for all NG driven pneumatic pumps that used c	alculation method 2 to calculate e	missions.	
Table C.4 is required for all NG driven pneumatic pumps that used c	alculation method 3 to calculate e	missions.	
Table C.5.i is required for the identification of missing data procedure	es used for NG driven pneumatic r	pumps that	used calculation method 1.
Table C.5.ii is required for the identification of missing data procedur	es used for NG driven pneumatic	pumps that	used calculation method 2.
Table C.5.iii is required for the identification of missing data procedu	res used for NG driven pneumatic	pumps that	used calculation method 3.

Applicability	
Did the facility have any natural gas driven pneumatic pumps subject to reporting under 98.232 [98.236(c)]?	
Did the facility use a continuous flow meter to measure emissions per Calculation Method 1?	
Did the facility measure vented emissions and, if applicable, calculate emissions using a facility-specific emission factor per Calculation Method 2?	
Did the facility use the default population emission factor to calculate emissions per Calculation Method 3?	

#### Best Available Monitoring Methods (BAMM) and Missing Data

Were BAMM used for any parameters to calculate GHG emissions?	Provide a brief description of the BAMM used, parameter measured, and time period.	Were missing data procedures used for any parameters to calculate GHG emissions? [98.235]
BAMM not available	for NG driven pumps	

#### Table C.1 NG Driven Pneumatic Pumps Count if using Calculation Methods 1, 2, or 3

Total Count of Natural Gas Driven Pneumatic Pumps	Total Number of Natural Gas Driven Pumps Vented Directly to the Atmosphere
[98.236(c)(2)(i)]	[98.236(c)(2)(ii)]

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## Natural Gas Driven Pneumatic Pumps (Method 1)

#### Table C.2 NG Driven Pneumatic Pumps Calculation Method 1

Measurement Location ID Number [98.236(c)(3)(i)]	Flow Monitor Type [98.236(c)(3)(ii)]	Number of Natural Gas Driven Pneumatic Pumps Downstream of Flow Monitor [98.236(c)(3)(iii)]	Are Any Natural Gas Driven Pneumatic Devices Downstream of the Flow Monitor? [98.236(c)(3)(iv)]	Annual CO <sub>2</sub> Emissions Using Calculation Method 1 (mt CO <sub>2</sub> ) [98.236(c)(3)(v)]	Annual CH <sub>4</sub> Emissions Using Calculation Method 1 (mt CH <sub>4</sub> ) [98.236(c)(3)(vi)]

Calculation Method 1 (continuous measurement) is a new **optional** reporting method for pumps on a natural gas supply line with a continuous flow monitor.

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### Natural Gas Driven Pneumatic Pumps (Method 2)



Calculation Method 2 (periodic measurement) is a new **optional** reporting method for pumps that are measured at least once during the reporting year using a temporary flow meter, calibrated bag sampling, or high-volume sampler.

Table C.3 NG Driven Pneumatic Pumps Calculation Method 2

elements when all pumps are	Number of Years Used in the Current Measurement Cycle [98.236(c)(4)(i)]	Number of Natural Gas Driven Pneumatic Pumps [98.236(c)(4)(ii)]	Were All Emissions from Pneumatic Pumps Measured During the Reporting Year or Were Some Measured and Some Calculated Using Equation W-2B? [98.236(c)(4)(iii)]	Primary Measurement Meth [98.236(c)(4)(iv)]		Annual CO <sub>2</sub> Were Direct Calculated §98.233(c)( (n [98.23	Emissions Which tly Measured and d as Specified in 2)(ii) through (vi) mt CO <sub>2</sub> ) 36(c)(4)(vi)]	Annual CH <sub>4</sub> Emissions Which Were Directly Measured and Calculated as Specified in §98.233(c)(2)(ii) through (vi) (mt CH <sub>4</sub> ) [98.236(c)(4)(vii)]
meusureu			All Pumps Measured					
		•						
Number of Years Used in the Current Measurement Cycle Driven Pneumati [98.236(c)(4)(i)] [98.236(c)(4)	Were All Emissions from           Pneumatic Pumps Measure           During the Reporting Year           c Pumps           Were Some Measured and           Some Calculated Using           Equation W-2B?           [98.236(c)(4)(iii)]	Primary Measurement Me [98.236(c)(4)(iv)]	Emission Factor for th Reporting Year from Equation W-2A (scf/hr/pump) [98.236(c)(4)(v)(A)]	Total Number of Pumps Across All Years Upon Which the Emission Factor is Based, Count <sub>y</sub> [98.236(c)(4)(v)(B)]	Total Number of P Directly to the At Were Not Direc According to 98 98.233(c)(2)(i [98.236(c)(4	Yumps that Vent mosphere and tly Measured 3.233(c)(1) or iii), Count 4)(v)(C)]	Average Estimated N of Hours the Pumps Pumping Liquid, [98.236(c)(4)(v)(E	lumber Were . T D)]

Annual CO <sub>2</sub> Emissions Which Were Directly Measured and Calculated as Specified in §98.233(c)(2)(ii) through (vi) (mt CO <sub>2</sub> )	Annual CH <sub>4</sub> Emissions Which Were Directly Measured and Calculated as Specified in §98.233(c)(2)(ii) through (vi) (mt CH <sub>4</sub> )	Annual CO2 Emissions Using Equation W-2B (Emissions Which Were Not Measured) (mt CO2)	Annual CH4 Emissions Using Equation W-2B (Emissions Which Were Not Measured) (mt CH4)
[98.236(c)(4)(vi)]	[98.236(c)(4)(vii)]	[98.236(c)(4)(viii)]	[98.236(c)(4)(ix)]

Reporting elements when some pumps are measured and others calculated using Equation W-2B

## Natural Gas Driven Pneumatic Pumps (Method 3)



Table C.4 NG Driven Pneumatic Pumps Calculation Method 3

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Number of Pumps that Vent Directly to the Atmosphere, Count [98.236(c)(5)(i)]	Average Estimated Number of Hours the Natural Gas Driven Pumps Vented Directly to the Atmosphere Pumped Liquid [98.236(c)(5)(ii)]	Annual CO <sub>2</sub> Emissions Using Calculation Method 3 (mt CO <sub>2</sub> ) [98.236(c)(5)(iii)]	Annual CH₄ Emissions Using Calculation Method 3 (mt CH₄) [98.236(c)(5)(iv)]

The use of default population emission factors has been retained for reporters that elect not to use Calculation Methods 1 or 2 and designated as Calculation Method 3.

### Natural Gas Driven Pneumatic Pumps (Missing Data)

Table C.5.i Missing Data Procedures Used for NG Driven Pneumatic Pumps Emission Calculations Using Method 1

Measurement Location ID Number for Parameters (For Calculation Method 1 Only)	Parameter for Calculation Method 1 Emissions [Table C.2]	Measurement Frequency	Number of quarters procedures we [98.236(bb	s missing data ere used p)(1)]	Total number of hours in the year missing data procedure was used [98.3(c)(8)] [98.236(bb)(2)]	Procedures Used [98.235(h)]
	Total Number of Natural Gas	Driven Pumps Vented Directly to	o the Atmosphere			
	Concentration of CO2 in Pro	duced Natural Gas duced Natural Gas				
	Volume or Mass Flow					

Table C.5.ii Missing Data Procedures Used for NG Driven Pneumatic Pumps Emission Calculations Using Method 2

R	ETURN	TO TOP	

Parameter for Calculation Method 2 Emissions	Measurement Frequency	Number of quarters missing data procedures were used	Total number of hours in the year missing data procedure was used	Procedures Used
[Table C.3]		[98.236(bb)(1)]	[98.3(c)(8)] [98.236(bb)(2)]	[98.235(h)]
Total Number of Natural Gas Driven Pumps Vented Directly to the Atmosphere				
Concentration of CO2 in Produced	l Natural Gas			
Concentration of CH4 in Produced	Natural Gas			
Volumetric Whole Gas Emissions R	ate Measurement			

Missing data tables have been added for each calculation method. The missing data table for Method 3 (not pictured) is the same as that for Method 2, except for the available parameters to select.

### Method 3 - Parameters

Total Number of Natural Gas Driven Pumps Vented Directly to the Atmosphere Concentration of CO2 in Produced Natural Gas Concentration of CH4 in Produced Natural Gas



E-GGKI Electronic Greenhouse Gas Reporting Tool

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#### Table D.5 Calculation Method 4 Emissions

Unit ID or Name [98.236(d)(1)(i)]	Name of simulation software package used [98.236(d)(2)(iii)(A)]	

Solvent circulation rate (gallons per minute) [98.236(d)(2)(iii)(K)]	Solvent weight (pounds per gallon) [98.236(d)(2)(iii)(L)]	

New columns added to the end of Table D.5 (to the right of the column for "Solvent weight") for AGRs with a vent flow meter electing to use Calculation Method 4

ls a vent meter installed? [98.236(d)(2)(iii)(M)]	Total Annual Volume of Vent Gas Flowing Out of the AGR as Determined by Flow Meter, V <sub>a,meter</sub> (cubic feet per year at actual conditions)	Total Annual Volume of Vent Gas Flowing Out of the AGR as Determined by the Standard Simulation Software Package, V <sub>a,sim</sub> (cubic feet per year at actual conditions)	Description of the reason for more than 20% difference. If you do not have more than a 20% difference, please leave the description field blank.
	[98.236(d)(2)(iii)(M)(1)]	[98.236(d)(2)(iii)(M)(2)]	[98.236(d)(2)(iii)(M)(3)]
Yes			
No			



Table D.6 Missing data procedures used for Acid Gas Removal emission calculations

		Parameters (specify only one per row)								
Unit ID or Name	Calculation Method 1 Emissions	Calculation Method 2 Emissions	Calculation Method 3 Emissions*	Calculation Method 4 Emissions						
[98.236(d)(1)(i)]	[Table D.2]	[Table D.3]	[Table D.4]	[Table D.5]						
					7					
	Annual Volume of Vented Gas Flowing Out of the Acid Gas Removal Units Determined by Flow Meter Annual Volume of Vented Gas Flowing Out of the Acid Gas Removal Units Determined by Standard Simulation Software									

Column added to Table D.6 to allow for reporting Missing Data for AGRs with a vent flow meter electing to use Calculation Method 4





Dehydrators [98.236(e)]		#N/A			
Version R.10	Back to Summary Tab				
Worksheet Instructions:					
In accordance with 98.232, only the following industry segments must report of	data for dehydrators:				
-Onshore petroleum and natural gas production [98.230(a)(2)]					
-Onshore natural gas processing [98.230(a)(3)]					
-Onshore netroleum and natural gas gathering and boosting [98 230(a)(9)]					
Table E.1 must be completed by all facilities with small glycol dehydrators (<0	).4 MMscfd) subject to reporting	under 98.232 and electing to use Calculation Method 2.			
Table E.2 must be completed by all facilities with desiccant dehydrators subject to reporting under 98.232.					
Table E.3 must be completed by all facilities with large glycol dehydrators (>=( glycol dehydrators (<0.4 MMscfd).	0.4 MMscfd) subject to reporting	) under 98.232 and facilities electing to use Calculation Method 1 for small			
Table E.4 is required for the identification of missing data procedures used fo	or dehydrator emission calculati	ons.			

For RY2024 the Worksheet Instructions for Tables E.1 and E.3 on the Dehydrators tab has been modified to reflect the amendment that allows reporters to use either Calculation Method 1 or Calculation Method 2 for any "small" dehydrator (throughput <0.4 MMscfd).

Instructions and data elements for Table E.2 (desiccant dehydrators) and Table E.4 (missing data procedures) are the same in the RY2024 reporting form as in reporting forms for prior years and are not shown in this webinar.

## **Dehydrators (Applicability)**



Total Emissions for Dehydrators				
[98.236(e)]				
mt CO <sub>2</sub>	mt CH₄	mt N₂O		
0.0	0.00	0.000		

	Applicability				
Did the annual av than 0.4	facility have any glycol dehydrators with verage daily natural gas throughputs less				
[98.236(e	and that are using Calculation Method 2?				
Did the subjec	facility have any desiccant dehydrators t to reporting under 98.232 [98.236(e)]?				
Did the annual ave	facility have any glycol dehydrators with erage daily natural gas throughputs greater tal to 0.4MMscfd subject to reporting under				
98.232 [9 dehydrat throughpu	8.236(e)], or did the facility have any glycol fors with annual average daily natural gas uts less than 0.4MMscfd using Calculation Method 1?				

The applicability questions have been updated to identify whether "small" dehydrators (throughput <0.4 MMscfd) are being reported using Calculation Method 1 or Calculation Method 2.

### Dehydrators (Calculation Method 2; Small Glycol)



Table E.1 Small Glycol Dehydrators Using Calculation Method 2 [98.233(e)(2)]

If the facility has any glycol dehydrators with a throughput <0.4 MMscfd (i.e., "small" dehydrators) and is using Calculation Method 2, complete following tables:

For RY2024, the title and instructional text for Table E.1 have been updated to indicate that this table is only for "small" dehydrators (throughput <0.4 MMscfd) for which the reporter elects to calculate emissions using Calculation Method 2 rather than Calculation Method 1.

There are no changes to data elements in this table for RY2024.

## Dehydrators (Calculation Method 1; Modeling any Glycol)

Table E.3 Glycol Dehydrators	Using Calculation	n Method 1	RETURN TO TOP				
	Required only for Onshore Petroleum and Natural Gas Production	Required only for Onshore Petroleum and Natural Gas Gathering and Boosting				Complete only if emiss atmosphere without be regenerator fire	ions are vented to the ing routed to a flare or ebox/fire tubes
Unit ID or Name [98.236(e)(1)(i)]	Sub-Basin ID [98.236(e)(1)(xviii]	County and State [98.236(e)(1)(xviii)]	Glycol dehydrator feed natural gas flow rate determined by engineering estimate based on best available data (MMscfd) [98.236(e)(1)(ii)]	•••	Were any dehydrator emissions vented to the atmosphere without being routed to a flare or regenerator firebox/fire tubes? [98.236(e)(1)(xvii)]	CO2 Emissions from Venting (mt CO2) [98.236(e)(1)(xvii)(A)]	CH₄ Emissions from Venting (mt CH₄) [98.236(e)(1)(xvii)(B)]

P

Electronic

The glycol dehydrator feed natural gas flow rate data element is not changing in the reporting form, however it is no longer restricted to large throughputs (>0.4 MMscfd) beginning in RY2024.

Table E.3 now includes the reporting of "small" dehydrators (throughput <0.4 MMscfd) that use Calculation Method 1.

## Well Completions and Workovers with Hydraulic Fracturing



Table G.1 Well Completions with Hydraulic Fracturing

	When using Equation W-10A								
Equation Used (Select) [98.236(g)(4)]	Are the only wells in the sub basin used to calculate "cumulative gas flowback time" wildcat or delineation wells subject to a 2-year delay in reporting? [98.236(g)(5)(ii)] [98.236(g)(5)(ii)]	Cumulative gas flowback time from all wells during completions from when gas is first detected until sufficient quantities are present to enable separation, Sum of T <sub>pu</sub> values (hours) [98.236(g)(5)(i)]	Cumulative gas flowback time from all wells during completions after sufficient quantities of gas are present to enable separation, Sum of T <sub>p.s</sub> values (hours) [98.236(g)(5)(i)]	Was the flow rate during the initial flowback period determined using a multiphase flowmeter upstream of a separator for any measured well in the sub-basin? [98.236(g)(5)(iv)]	If a multiphase flowmeter was used to measure the flow rate during the initial flowback period, the average flow rate for all wells in the sub-basin measured by the multiphase flow meter from the initiation of flowback to the beginning of the period of time when sufficient quantities of gas present to enable separation, FR <sub>p,1</sub> (standard cubic feet per hour)	(nnual gas emissions, E <sub>s,n</sub> (standard cubic feet) [98.236(g)(7)]	Annual total CO <sub>2</sub> emissions (mt CO <sub>2</sub> ) [98.236(g)(8)]	Annual total CH₄ emissions (mt CH₄) [98.236(g)(9)]	Annual total N₂O emissions (mt N₂O) [98.236(g)(10)]

### Table G.2 Well Workovers with Hydraulic Fracturing

		Well Type				
Sub-Basin ID [98.236(g)(1)]	Well Type [98.236(g)(2)]	ls gas flared? [98.236(g)(2)]	Reduced Emission Workovers? [98.236(g)(2)]	Oil or Gas Well [98.236(g)(2)]	Total count of workovers [98.236(g)(3)]	Equation Used (Select) [98.236(g)(4)]

Table G.1 collects information on well **completions** with hydraulic fracturing, while Table G.2 collects the same information for well **workovers**. These tables gather information at the sub-basin level.

Note the new columns specifying if a multiphase flowmeter is used and the average flowrate at the initiation of flowback. 98.236(g)(6)(iii) is used in conjunction with equation W-10B and is required if a multiphase flowmeter is in use.



### **Atmospheric Storage Tanks**

- No changes to reporting data elements for RY2024.
- Only <u>instructional text</u> and <u>table titles</u> change on the atmospheric tanks tab for RY2024 to reflect the amendment for RY2024 that allows calculation of emissions for streams from wells, gas-liquid separators, or non-separator equipment with throughput <10 barrels per day using <u>any</u> of the three Calculation Methods. For example, see rows 33 and 40:

	For gas-liquid separators, non-separator equipment, or wells using Calculation Method 1 or 2 [Table J.1]:	CLICK HERE			
For gas-liquid separators,	ที่อา-ระหลาสเอา อินุแหกเอกเ, or wens with on นกอนฐาหน่ <าง parteis/uay using Calculation metriou 5 [ rapie 5.2.1].	CLICK HERE			
For gas-liquid separators, non-separator equipment, or wells with oil throughput <10 barrels/day using Calculation Method 3 (without flaring) [Table J.2.ii]:					
For gas-liquid separators, non-separator equipment, or wells with oil throughput <10 barrels/day using Calculation Method 3 (with flaring) [Table J.2.iii]:					
If separator dump valve is functioning improperly during the calendar year [Table J.3]:					
For Missing data procedures [Table J.4]:					
Delayed Atmospheric Storage Tanks data (for delays claimed two years prior) [Table J.5]:					

Table J.1 Gas-Liquid Separators, Non-Separator Equipment, or Wells Using Calculation Method 1 or 2

Required only for Onshore Petroleum and Natural Gas Production	Required only for Onshore Petroleum and Natural Gas Gathering and Boosting			Total volu	me of oil	
Sub-Basin ID [98.236(j)(1)(i)]	County and State [98.236(j)(1)(i)]	Select Calculation Method Used (Select from list) [98.236(j)(1)(ii)]	Name of software package used for Calculation Method 1 [98.236(j)(1)(ii)]	For Onshore petroleum and natural gas production facilities, are the only wells used to calculate "total volume of oil" in the sub- basin wildcat or delineation wells subject to a 2-year delay in reporting?	Total volume of oil sent to tanks from all gas- liquid separators and direct from wells or non- separator equipment (bbl per yr) [98.236(j)(1)(iii)]	Average gas-liquid separator or non- separator equipment temperature (°F) [98.236(j)(1)(iv)]

### **Associated Gas**



Table M.1 now requires that facilities report whether associated gas is measured using a continuous flow measurement device, GOR calculation, or both. If a continuous flow measurement device is utilized, facilities must now report the volume of associated gas vented.

Table M.1 Associated (	Gas Venting and Flaring											
Sub-Basin ID [98.236(m)(1)]		Was the associat natural gas vented flared? [98.236(m)(2)] [98.236(m)(3)]	Did You Use a Continuous Flow Measurement Device, Use GOR to Calculate the Gas Volume, or Both? [98.236(m)(4)] [98.236(m)(5)] [98.236(m)(6)]		Average gas to oil ratio for the Sub-Basin, Average of GOR (standard cubic feet of gas per barrel of oil) [98.236(m)(4)]		Are the only wells in the sub-basin used to determine "volume of oil produced" or "volume of associated gas sent to sales" wildcat or delineation wells subject to a 2-year delay in reporting? [98.236(m)(5)] [98.236(m)(6)]		Volume of oil produced during venting/flaring, Sum of V <sub>p,q</sub> (barrels) [98.236(m)(5)]	Volume of associated gas sent to sales, Sum of SG (standard cubic feet) [98.236(m)(6)]		
				Continuou: E	s Measurement Device							
				Continuou: Device	s Measurement e and GOR							
	Venting Emis	sions				_	Flaring Em	nissions				
Number of wells	Volume of Associated	Annual CO <sub>2</sub>	Ani	nual CH₄	Number of wel	<b>1</b> 0	Annual CO <sub>2</sub>	Annual CH <sub>4</sub>	Annual N <sub>2</sub> O			
[98.236(m)(7)(i)]	Gas Vented (standard cubic feet) [98.236(m)(7)(ii)]	(mt CO <sub>2</sub> )	(n [98.23	enting nt CH₄) 6(m)(7)(iv)]	flaring associated	)]	flaring (mt CO <sub>2</sub> ) [98.236(m)(8)(ii)]	flaring (mt CH <sub>4</sub> ) [98.236(m)(8)(iii)]	flaring (mt N <sub>2</sub> O) [98.236(m)(8)(iv)]	Tables N shown) RY2023.	Л.2 and M. are unchar	3 (not nged fro

### **Centrifugal and Reciprocating Compressors**



- For RY2024, the reporting requirements in all compressor tables are unchanged from RY2023.
- Onshore Production and Gathering and Boosting facilities have the option in 98.233(o)(10)(ii) or 98.233 (p)(10)(ii) to use as-found volumetric compressor measurements instead of using a population emission factor for RY2024.
- For Onshore Production and Gathering and Boosting facilities, there is a new Yes/No reporting element to indicate whether the facility chose to use as-found volumetric compressor measurements for RY2024, shown below. If Yes, facilities must complete all tables except 0.5/P.5 for centrifugal and reciprocating compressors, respectively.

Applicability	
Did the facility have any centrifugal compressors subject to reporting under 98.232 [98.236(o)]?	
For Onshore Petroleum and Natural Gas Production and Onshore Petroleum and Natural Gas Gathering and Boosting facilities: Did you use volumetric measurements to determine emissions from centrifugal compressors?	

Applicability	
Did the facility have any reciprocating compressors subject to reporting under 98.232 [98.236(p)]?	
For Onshore Petroleum and Natural Gas Production and Onshore Petroleum and Natural Gas Gathering and Boosting facilities: Did you use volumetric measurements to determine emissions from reciprocating compressors?	

### **Equipment Leaks – Leaker Method**



Reporting form changes corresponding to new or revised requirements in section 98.236(q)

Applicability	
Did this facility use leak surveys to calculate emissions from equipment leaks in accordance with 98.232 [per 98.236(q)]?	
Did this facility use population counts to calculate emissions from equipment leaks in accordance with 98.232 [per 98.236(r)]?	
Are any equipment components at the facility subject to the well site or compressor station fugitive emissions standards under 40 CFR Part 60, Subpart OOODa [98.236(q)(1)(iii)]?	
Did the facility elect to comply with 98.236(q) according to 98.233(q)(1)(iv) for any components at the facility [per 98.236(q)(1)(iv)]?	

### Table Q.1 (not pictured) is unchanged for RY2024

Table Q.2.i Leak Survey Calculation Method	RETURN TO TOP		
Were Emissions for a Complete Leak Survey Calculated Using Calculation Method 1? (Leaker Emission Factor Calculation Methodology)	Were Emissions for a Complete Leak Survey Calculated Using Calculation Method 2? (Leaker Measurement Methodology)		
[98.236(q)(1)(vi)]	[98-236(a)(1)(mi)]		
Yes	Yes		

Applicability questions now include a Yes/No picklist for facilities to indicate whether equipment at their well site or compressor station fugitive emissions standards is subject to 40 CFR Part 60, Subpart OOOOa

Applies to all industry segments except Onshore Natural Gas Processing and Natural Gas Distribution

Table Q.2.i is a new table added for RY2024

Reporters should indicate using the Yes/No picklist whether they used Calculation Method 1 (emission factor) and/or Calculation Method 2 (direct measurement) for their equipment leak calculations

### **Equipment Leaks – Leaker Method (continued)**



Table Q.2.ii (previously Table Q.2) is required to be completed by facilities using the emission factor method (i.e., Calculation Method 1). The table has been modified to add a drop-down for facilities to indicate whether a default or facility-specific emission factor has been used and to require the reporting of the total number of components surveyed by type.

Table Q.2.ii: Emissions Calculated for Component Types Using Emissions Factors per Calculation Method 1. Complete the following table for each component type that uses emission factors for estimating emissions for equipment leaks found in each leak survey:

Report the count of components surveyed of all component types and the emissions from those component types (as calculated by Equation W-30) for your industry segment. If no leaks were identified from any components of a component type during the leak survey, enter "0" in columns G through I for that component type.	Component Type [98.236(q)(2)(ii)]	Emission Factor Used [98.236(q)(2)(iv)]	Total Number of Components Surveyed by Type [98.236(q)(2)(v)]	Number of Leaks Identified for the Specified Component Type [98.236(q)(2)(vi)]
	Onshore Production or (			
	Onshore Production or (			
	Onshore Production or (			
	Onshore Production or (			
	Onshore Production or (			

### **Equipment Leaks – Leaker Method (continued)**



Table Q.2.iii is a new table added for RY2024. It is required to be completed by facilities using the direct measurement meth od. Facilities must report the number of components surveyed by type, the number of leaks measured by component type, average duration of measured leaks and the resulting CO<sub>2</sub> and CH<sub>4</sub> emissions.

### Table Q.2.iii: Emissions Calculated for Component Types Using Direct Measurements per Calculation Method 2. Complete the following table for each component type that uses direct measurements for equipment leaks found in each leak survey:

Reporting component types and the emissions from those component types (as calculated by Equation W-30) for your industry segment.Component TypeMeasurement Method UsedTotal Number of Component Method UsedAverage Duration of Leaks for the specified Component TypeAverage Duration of Leaks for the specified Component TypeCO2 EmissionsCH4 Edit (Surveyed)If no leaks were identified from any components of a component type.[98.236(q)(2)(iv)][98.236(q)(2)(v)]	ions from those     Component Type     Meas       v Equation W-30)     Component Type     Meas       nent.     [98.236(q)(2)(ii)]     Image: Component Type       in y components     [98.236(q)(2)(ii)]       is leak survey,     [98.236(q)(2)(ii)]	ponent types and the emissions from t onent types (as calculated by Equation for your industry segment. leaks were identified from any compo a component type during the leak sur enter "0" in columns G through I for th component type.
Onshore Production or ODirect Measurement	Onshore Production or C	
Onshore Production or ODirect Measurement	Onshore Production or C	
Onshore Production or Opirect Measurement	Onshore Production or C	
Onshore Production or Opirect Measurement	Onshore Production or C	
Onshore Production or Oirect Measurement	Onshore Production or C	

- Table Q.3 (not pictured) is unchanged for RY2024
- Table R1 through Table R4 (not pictured) are unchanged for RY2024

### **Combustion Equipment (Table Z.3)**



Combustion Equipment at Onshore Petroleum and Natural Gas Production Facilities, Onshore Petroleum and Natural Gas Gathering and Boosting Facilities, and Natural gas Distribution Facilities [98.236(z)]

There are no changes to worksheet instructions, external links, Table Z.1, and Table Z.2.

RY2024 expands the types of natural gas streams for which combustion emissions may be calculated using subpart C Tiers 2-4. The descriptions of these gaseous fuels have been changed in the drop-down list for the type of fuel combusted data element in Table Z.3.

#### Table Z.3 Large combustion unit emissions

If you answered "Yes" to any part of Table Z.2, complete Table Z.3 for all applicable units.

Type of combustion unit [98.236(z)(2)(i)]	Type of fuel combusted [98.236(z)(2)(ii)]	Quantity of fuel combusted in calendar year [98.236(z)(2)(iii)]	Unit of measure [98.236(z)(2)(iii)	CO2 Emi (mt C [98.236(z	
		*		l	
	Natural Gas (Pipeline Quality with HH	V at least 950 Btu/scf)		~	
	Natural Gas (Not Pipeline Quality but with HHV Between 950 and 1,100 Btu/scf and at least 70% CH4)				
	Field Gas, Process Vent Gas, and/or Natural Gas of Quality Not Otherwise Listed				

### **Combustion Equipment (Table Z.4)**



The changes to the list of gaseous fuels described for Table Z.3 have also been included in the dropdown list for the type of fuel combusted data element in Table Z.4.

#### Table Z.4 Missing data procedures used for Combustion Emission calculations

Type of combustion unit	Type of fuel combusted	Parameters	Measurement Frequency	Number of quarters data procedures we [98.236(bb)(1	mi: ere  )]
		*			
	Natural Gas (Pipeline Quality with HH\	/ at least 950 Btu/scf)		~	
	Natural Gas (Not Pipeline Quality but v	with HHV Between 950 and	1,100 Btu/scf and at least 70%	CH4)	
	Field Gas, Process Vent Gas, and/or Na	tural Gas of Quality Not Ot	herwise Listed		

### How to Submit Your Report (Login)

- Login to e-GGRT at: <u>https://ghgreporting.epa.gov</u>
- Enter your e-GGRT username, and you will be redirected to login.gov
- Upon a successful login through login.gov, e-GGRT can now be accessed

Separation United States Environmental Protection Agency	Hi,
Electronic Greenhouse Gas Reporting Tool	GO Accept An Appointment If you received an email to accept an appointn Invitation Code into the field, then submit. SUBMIT
	Announcements Updated August 9, 2024 New Credentials Process Required Beginning August 17, 2024, ALL e-GGRT user credentials to access e-GGRT. This will require

*e-GGRT now utilizes login.gov for authentication purposes when logging in. Please visit the following website for more information:* <u>https://ccdsupport.com/confluence/display/help/Login.gov+Migration+Process</u>



### How to Submit Your Report (Upload Reporting Form)



. Within your e-GGRT account, click "DATA REPORTING" and choose your facility.

**2-** FG

Electronic Greenhouse Gas

**Reporting Tool** 

- 2. Choose the applicable Subpart W reporting form file.
- 3. Upload the file.
- 4. After upload, if you have validation errors, they will be available at the "View Validation" link.

### How to Submit Your Report (Validation Checks)



#### MLH Resources

Subpart W: Petroleum and Natural Gas Systems (2024)

Subpart Overview » Validation Report

#### SUBPART VALIDATION REPORT

This report contains a complete set of validation messages at the subpart level. Clicking the message text will redirect you to the screen that contains the field that generated the validation message.

Print-friendly version

#### FACILITY-LEVEL VALIDATION MESSAGES

Validation Type <sup>1</sup>	ID <sup>2</sup>	Message <sup>3</sup>				
No facility-level validation messages found.						

#### FILE-LEVEL VALIDATION MESSAGES

Validation Type <sup>1</sup>	ID <sup>2</sup>	Details	Message <sup>3</sup>
Data Completeness	W3065V3	Object Type: (h) Wells without Fracturing - WellCompletionsWithoutHydraulicFracturingWithoutFlaring Sub-Basin ID: 984 - KODIAK ISLAND, AK (150) - Oil File Name: MLH Resources Test File for Tab G.xls	Total number of hours that gas vented directly to atmosphere, Sum of all Tp [98.236(h)(1)(iii)]. This data element is required for this sub-basin ID.
Data Completeness	W3072V3	Deject Type: (h) Wells without Fracturing - WellCompletionsWithoutHydraulicFracturingWithoutFlaring Sub-Basin ID: 984 - KODIAK ISLAND, AK (150) - Oil File Name: MLH Resources Test File for Tab G.xIs	Annual total CH4 emissions that resulted from venting gas directly to the atmosphere for completions, Es,p (mt CH4) [98.236(h)(1)(vi)]. This data element is required for this sub-basin.

+ Subpart Overview

Critical Validation Error: Messages that appear with the stop sign icon will prevent you from generating and submitting your annual report. You should first address the errors described. If you feel you have received one of these messages in error, or there's a reason why your report should be submitted despite the message, please submit a request to the e-GGRT Help Desk.

- An example of the validation error screen.
- Critical validation errors are indicated with a stop sign icon.
- All critical validation errors (if any) must be resolved before a report can be submitted.

### How to Submit Your Report (Submit & Certify)



### W LDC (GHGRP ID: 530120) e-GGRT Greenhouse Gas Data Reporting (2024)

Select Facility » Facility or Supplier Overview

#### FACILITY OR SUPPLIER OVERVIEW

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

After data reporting is complete, you can initiate the FINAL REVIEW and REPORT SUBMISSION process from this page by using GO button.

Facility's GHG Reporting Method: Data entry via e-GGRT web-forms (Change)

#### 1) GHG DATA REPORTING

Select appropriate subparts and complete data entry. Data Entry Validation Messages will ensure you have provided all required data and avoided common data entry mistakes.

2024 Reporting Source or Supplier Category	Validation Messages?	Subpart Reporting
Subpart A—General Information	View Messages	OPEN
Subpart W—Petroleum and Natural Gas Systems	View Messages	OPEN

+ ADD or REMOVE Subparts

2) FINAL REVIEW and REPORT SUBMISSION GO

#### 6,253.1 (metric tons)

CO<sub>2</sub> equivalent emissions from facility subparts C-II, SS, and TT

#### 0.0

(metric tons) Biogenic CO<sub>2</sub> emissions from facility subparts C-II, SS, and TT

VIEW GHG DETAILS

- After confirming that you have no validation messages, go to the Facility Overview page.
- Click the "GO" button to generate a submission package.



- The XML reporting schema and updated instructions for Subpart W:
  - http://www.ccdsupport.com/confluence/display/help/XML+Reporting+Instructions
- The final reporting forms and instructions for Subpart W:
  - <u>http://www.ccdsupport.com/confluence/display/help/Reporting+Form+Instructions</u>
- RY2024 Subpart W Reporting Form Help Content:
  - <u>https://ccdsupport.com/confluence/display/help/Subpart+W+-</u> +Petroleum+and+Natural+Gas+Systems
- Optional Calculation Tool:
  - <u>https://www.ccdsupport.com/confluence/display/help/Optional+Calculation+Spr</u> <u>eadsheet+Instructions</u>
- The GHGRP Applicability Tool can be found here:
  - <u>https://www.epa.gov/ghgreporting/applicability-tool</u>

## **Subpart W Resources (continued)**



- For more information on the Final Amendments to Subpart W:
  - https://www.epa.gov/ghgreporting/rulemaking-notices-ghg-reporting
- For more information on the GHGRP:
  - <u>https://www.epa.gov/ghgreporting</u>
- To ask questions that were not answered in today's webinar, contact the GHGRP Help Desk:
  - Email <u>ghgreporting@epa.gov</u>
  - <u>https://www.epa.gov/ghgreporting/forms/contact-us-about-ghg-reporting</u>
- Webinar materials will be posted in the coming weeks:
  - www.epa.gov/ghgreporting/training-and-testing-opportunities-ghg-reporting

As a reminder, please do not submit sensitive or confidential business information to the helpline



# Q & A Session