MEMORANDUM-PROPOSED DATA CATEGORY ASSIGNMENTS FOR SUBPART W

To: Docket EPA-HQ-OAR-2011-0028

From: Lisa Bacanskas, EPA/Climate Change

Date: January 26, 2012

Subject: Proposed data category assignments for data reporting elements in 40 CFR part 98, subpart W.

In this memorandum, we show the proposed data category assignments for data reporting elements in subpart W – Petroleum and Natural Gas Systems Source Category of Part 98 as referenced in the *Proposed Confidentiality Determinations and Corrections to the Petroleum and Natural Gas Systems Source Category, and Amendments to Table A-7, of the Greenhouse Gas Reporting Rule.* Each data element was assigned to one of 11 data categories for the direct emitter source categories. The table below shows the proposed data category assignments for the data reporting elements. Please note that certain subpart W data elements have already been assigned to the inputs to emission equations data category. See the *[Final] Change to the Reporting Date for Certain Data Elements Required Under the Mandatory Reporting of Greenhouse Gases Rule,* published on August 25, 2011 (76 FR 53057).

For descriptions of the 11 direct emitter data categories and the categorical confidentiality determinations made for eight of these categories, see the preambles to the proposed and final rulemakings: *Proposed Confidentiality Determinations for Data Required Under the Mandatory Greenhouse Gas Reporting Rule and Proposed Amendment to Special Rules Governing Certain Information Obtained Under the Clean Air Act* published on July 7, 2010 (75 FR 39094); and *Confidentiality Determinations for Data Required under the Mandatory Greenhouse Gas Reporting Rule and Amendment to Special Rules Governing Certain Information Obtained under the Clean Air Act* published on May 26, 2011 (76 FR 30782). Copies of the proposed and final rules are available on EPA's website: http://www.epa.gov/climatechange/emissions/CBI.html, at the following links: http://www.gpo.gov/fdsys/pkg/FR-2010-07-07/pdf/2010-16317.pdf and http://www.gpo.gov/fdsys/pkg/FR-2011-05-26/pdf/2011-12930.pdf.

Appendix A

Data Category Assignments for Subpart W

List of Proposed Data Category Assignments

Note:

In the May 26, 2011 Final CBI rule, the EPA issued categorical confidentiality determinations for 8 direct emitter categories. The table below identifies eleven direct emitter data categories for subpart W and in the heading the final categorical determinations for eight data categories. Two of the data categories "Unit/Process 'Static' Characteristics That are Not Inputs to Emission Equations" and "Unit/Process 'Operating' Characteristics That are Not Inputs to Emission Equations" do not have categorical confidentiality determinations, as these determinations are made on an element-by-element basis. Finally, the EPA is not making final determinations on data elements assigned to the "Inputs to Emission Equations" data category as is noted in the preamble to this rule.

Key:

(I) = assigned to the Inputs to Emission Equations category in the May 26, 2011 Final Deferral Rule
I = assigned in this proposal to the Inputs to Emission Equations category
E = assigned in this proposal to a category with a categorical determination of "emission data"
C = assigned in this proposal to a category with a categorical determination of "not emission data and CBI"
X = assigned in this proposal to a category with a categorical determination of "not emission data and not CBI"
PC = assigned in this proposal to a category without a categorical determination and is proposed to be CBI
PX = assigned in this proposal to a category without a categorical determination and is proposed to not to be CBI

			Category											
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For extension requests for the use of BAMM beyond 2011 for sources listed in 40 CFR 98.234(f)(2), (3), (4), and (5)(iv): Initial electronic notice of intent to submit an extension request for the use of BAMM beyond December 31, 2011.	98.234f8i					PX						
W - Petroleum and Natural Gas Systems	For extension requests for the use of BAMM beyond 2011 for sources listed in 40 CFR 98.234(f)(2), (3), (4), and (5)(iv): List of the specific source categories for which the owner or operator is seeking use of best available monitoring methods.	98.234f8iiA	E										
W - Petroleum and Natural Gas Systems	For extension requests for the use of BAMM beyond 2011 for sources listed in 40 CFR 98.234(f)(2), (3), (4), and (5)(iv): List of parameters for which the owner or operator is seeking use of best available monitoring methods.	98.234f8iiA						E					

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For extension requests for the use of BAMM beyond 2011 for sources listed in 40 CFR 98.234(f)(2), (3), (4), and (5)(iv): Description of the unique or unusual circumstances, such as data collection methodologies that do not meet safety regulations or specific laws or regulations that conflict for each source for which an owner or operator is requesting use of BAMM.	98.234f8iiB					PX						
W - Petroleum and Natural Gas Systems	For extension requests for the use of BAMM beyond 2011 for sources listed in 40 CFR 98.234(f)(2), (3), (4), and (5)(iv): Description of the unique or unusual circumstances, such as data collection methodologies that are technically infeasible for which an owner or operator is requesting use of BAMM.	98.234f8iiB					PX						
W - Petroleum and Natural Gas Systems	For extension requests for the use of BAMM beyond 2011 for sources listed in 40 CFR 98.234(f)(2), (3), (4), and (5)(iv): Detailed explanation and supporting documentation of how the owner or operator will receive the services or equipment to comply with all of these subpart W reporting requirements.	98.234f8iiC					PX						
W - Petroleum and Natural Gas Systems	For extension requests for the use of BAMM beyond 2011 for sources listed in 40 CFR 98.234(f)(2), (3), (4), and (5)(iv): Detailed explanation and supporting documentation of when the owner or operator will receive the services or equipment to comply with all of these subpart W reporting requirements.	98.234f8iiC					PC						
W - Petroleum and Natural Gas Systems	Annual emissions in metric tons of CO2e for each GHG from onshore petroleum and natural gas production.	98.236a1			E								
W - Petroleum and Natural Gas Systems	Annual emissions in metric tons of CO2e for each GHG from offshore petroleum and natural gas production.	98.236a2			E								
W - Petroleum and Natural Gas Systems	Annual emissions in metric tons of CO2e for each GHG from onshore natural gas processing.	98.236a3			E								
W - Petroleum and Natural Gas Systems	Annual emissions in metric tons of CO2e for each GHG from onshore natural gas transmission compression.	98.236a4			E								
W - Petroleum and Natural Gas Systems	Annual emissions in metric tons of CO2e for each GHG from underground natural gas storage.	98.236a5			E								
W - Petroleum and Natural Gas Systems	Annual emissions in metric tons of CO2e for each GHG from LNG storage.	98.236a6			E								
W - Petroleum and Natural Gas Systems	Annual emissions in metric tons of CO2e for each GHG from LNG import and export.	98.236a7			E								

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	Annual emissions in metric tons of CO2e for each GHG from natural gas distribution.	98.236a8			E								
W - Petroleum and Natural Gas Systems	For offshore petroleum and natural gas production, report emissions of CO2 as applicable to the source type (in metric tons CO2e per year at standard conditions) individually for all the emissions source types listed in the most recent BOEMRE study.	98.236b			E								
W - Petroleum and Natural Gas Systems	For offshore petroleum and natural gas production, report emissions of CH4 as applicable to the source type (in metric tons CO2e per year at standard conditions) individually for all the emissions source types listed in the most recent BOEMRE study.	98.236b			E								
W - Petroleum and Natural Gas Systems	For offshore petroleum and natural gas production, report emissions of N2O as applicable to the source type (in metric tons CO2e per year at standard conditions) individually for all the emissions source types listed in the most recent BOEMRE study.	98.236b			E								
W - Petroleum and Natural Gas Systems	Actual count of natural gas pneumatic high bleed devices as applicable.	98.236c1i		(l)									
W - Petroleum and Natural Gas Systems	Estimated count of natural gas pneumatic high bleed devices s applicable.	98.236c1i		(l)									
W - Petroleum and Natural Gas Systems	Actual count of natural gas pneumatic low bleed devices as applicable.	98.236c1ii		(l)									
W - Petroleum and Natural Gas Systems	Estimated count of natural gas pneumatic low bleed devices as applicable.	98.236c1ii		(l)									
W - Petroleum and Natural Gas Systems	Actual count of natural gas pneumatic intermittent bleed devices as applicable.	98.236c1iii		(l)									
W - Petroleum and Natural Gas Systems	Estimated count of natural gas pneumatic intermittent bleed devices as applicable.	98.236c1iii		(l)									
W - Petroleum and Natural Gas Systems	For high bleed pneumatic devices, report annual CO2 emissions at the facility level (metric tons CO2e).	98.236c1iv			E								
W - Petroleum and Natural Gas Systems	For high bleed pneumatic devices, report annual CH4 emissions at the facility level (metric tons CO2e).	98.236c1iv			E								
W - Petroleum and Natural Gas Systems	For intermittent bleed pneumatic devices, report annual CO2 emissions at the facility level (metric tons CO2e).	98.236c1iv			E								

			Category										
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W - Petroleum and Natural Gas Systems	For intermittent bleed pneumatic devices, report annual CH4 emissions at the facility level (metric tons CO2e).	98.236c1iv			E								
W - Petroleum and Natural Gas Systems	For low bleed pneumatic devices, report annual CO2 emissions at the facility level (metric tons CO2e).	98.236c1iv			E								
W - Petroleum and Natural Gas Systems	For low bleed pneumatic devices, report annual CH4 emissions at the facility level (metric tons CO2e).	98.236c1iv			E								
W - Petroleum and Natural Gas Systems	Count of natural gas driven pneumatic pumps.	98.236c2i		(I)									
W - Petroleum and Natural Gas Systems	For all natural gas driven pneumatic pumps combined, report annual CO2 emissions at the facility level (metric tons CO2e).	98.236c2ii			E								
W - Petroleum and Natural Gas Systems	For all natural gas driven pneumatic pumps combined, report annual CH4 emissions at the facility level (metric tons CO2e).	98.236c2ii			E								
W - Petroleum and Natural Gas Systems	Total throughput of each acid gas removal unit using a meter or engineering estimate based on process knowledge or best available data in million cubic feet per year.	98.236c3i		(I)									
W - Petroleum and Natural Gas Systems	For Calculation Methodology 1 of §98.233(d), annual average fraction of CO2 content in the vent from each acid gas removal unit (refer to §98.233(d)(6)).	98.236c3ii			E								
W - Petroleum and Natural Gas Systems	For Calculation Methodology 2 of §98.233(d), annual average fraction of CO2 content in the vent from each acid gas removal unit (refer to §98.233(d)(6)).	98.236c3ii		(I)									
W - Petroleum and Natural Gas Systems	For Calculation Methodology 3 of §98.233(d), annual average volume fraction of CO2 content of natural gas into each acid gas removal unit (refer to §98.233(d)(7) and (d)(8)).	98.236c3iii		(I)									
W - Petroleum and Natural Gas Systems	For Calculation Methodology 3 of §98.233(d), annual average volume fraction of CO2 content of natural gas out of each acid gas removal unit (refer to §98.233(d)(7) and (d)(8)).	98.236c3iii		(I)									
W - Petroleum and Natural Gas Systems	Annual quantity of CO2, that was recovered from each acid gas removal unit and transferred outside the facility (metric tons CO2e), under subpart PP of this part.	98.236c3iv		I									
W - Petroleum and Natural Gas Systems	Annual CO2 emissions for each acid gas removal unit (metric tons CO2e).	98.236c3v			E								
W - Petroleum and Natural Gas Systems	For onshore natural gas processing industry segment only, a unique name or ID number for each acid gas removal unit.	98.236c3vi	E										

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W - Petroleum and Natural Gas Systems	Indication of which calculation methodology was used for each acid gas removal unit.	98.236c3vii						E					
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Glycol dehydrator feed natural gas flow rate in MMscfd, determined by engineering estimate based on best available data.	98.236c4iA		(I)									
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Glycol dehydrator absorbent circulation pump type.	98.236c4iB		(I)									
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Report whether stripper gas is used in glycol dehydrator.	98.236c4iC		(I)									
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Report whether a flash tank separator is used in glycol dehydrator.	98.236c4iD		(I)									
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Report type of absorbent.	98.236c4iE		(I)									
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Total time the glycol dehydrator is operating in hours.	98.236c4iF		(I)									
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Temperature of the wet natural gas (degrees Fahrenheit).	98.236c4iG		(I)									
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Pressure of the wet natural gas (psig).	98.236c4iG		(I)									
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Concentration of CO2 in wet natural gas.	98.236c4iH		(I)									
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Concentration of CH4 in wet natural gas.	98.236c4iH		(I)									
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: What vent gas controls are used (refer to §98.233(e)(3) and (e)(4)).	98.236c4iI						E					
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Annual CO2 emissions that resulted from venting gas directly to the atmosphere (metric tons CO2e).	98.236c4iJ			E								

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W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Annual CH4 emissions that resulted from venting gas directly to the atmosphere (metric tons CO2e).	98.236c4iJ			E								
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Annual CO2 emissions that resulted from flaring process gas from the dehydrator (metric tons CO2e).	98.236c4iK			E								
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Annual CH4 emissions that resulted from flaring process gas from the dehydrator (metric tons CO2e).	98.236c4iK			E								
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Annual N2O emissions that resulted from flaring process gas from the dehydrator (metric tons CO2e).	98.236c4iK			E								
W - Petroleum and Natural Gas Systems	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd for the onshore natural gas processing industry segment only: A unique name or ID number for the glycol dehydrator.	98.236c4iL	E										
W - Petroleum and Natural Gas Systems	For all glycol dehydrators with throughput less than 0.4 MMscfd: Count of glycol dehydrators.	98.236c4iiA		(I)									
W - Petroleum and Natural Gas Systems	For all glycol dehydrators with throughput less than 0.4 MMscfd: Which vent gas controls are used (refer to §98.233(e)(3) and (e)(4)).	98.236c4iiB					PX						
W - Petroleum and Natural Gas Systems	For all glycol dehydrators with annual average daily throughput less than 0.4 MMscfd combined: annual CO2 emissions at the facility level that resulted from venting gas directly to the atmosphere (metric tons CO2e).	98.236c4iiC			E								
W - Petroleum and Natural Gas Systems	For all glycol dehydrators with annual average daily throughput less than 0.4 MMscfd combined: annual CH4 emissions at the facility level that resulted from venting gas directly to the atmosphere (metric tons CO2e).	98.236c4iiC			E								
W - Petroleum and Natural Gas Systems	For all glycol dehydrators with annual average daily throughput less than 0.4 MMscfd combined: annual CO2 emissions at the facility level that resulted from the flaring of process gas (metric tons CO2e).	98.236c4iiD			E								
W - Petroleum and Natural Gas Systems	For all glycol dehydrators with annual average daily throughput less than 0.4 MMscfd combined: annual CH4 emissions at the facility level that resulted from the flaring of process gas (metric tons CO2e).	98.236c4iiD			E								

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W - Petroleum and Natural Gas Systems	For all glycol dehydrators with annual average daily throughput less than 0.4 MMscfd combined: annual N2O emissions at the facility level that resulted from the flaring of process gas (metric tons CO2e).	98.236c4iiD			E								
W - Petroleum and Natural Gas Systems	Count of absorbent desiccant dehydrators.	98.236c4iiiA				PX							
W - Petroleum and Natural Gas Systems	Annual CO2 emissions at the facility level for all absorbent desiccant dehydrators combined (metric tons CO2e).	98.236c4iiiB			E								
W - Petroleum and Natural Gas Systems	Annual CH4 emissions at the facility level for all absorbent desiccant dehydrators combined (metric tons CO2e).	98.236c4iiiB			E								
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodology 1, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Count of wells vented to the atmosphere for liquids unloading.	98.236c5iA					PX						
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodology 1, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Whether the selected well from the tubing diameter and pressure group combination had a plunger lift (yes/no).	98.236c5iB					PX						
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodology 1, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Count of plunger lifts.	98.236c5iB					PX						
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodology 1, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Cumulative number of unloadings vented to the atmosphere.	98.236c5iC					PX						
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodology 1, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Average flow rate of the measured well venting (cubic feet per hour) (refer to §98.233(f)(1)(i)(A)).	98.236c5iD		(I)									

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W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodology 1, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Internal casing diameter or internal tubing diameter in inches, where applicable.	98.236c5iE				PX							
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodology 1, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Well depth of each well, in feet, selected to represent emissions in that tubing size and pressure combination.	98.236c5iE				PX							
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodology 1, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Casing pressure, in psia, of each well selected to represent emissions in that tubing size group and pressure group combination that does not have a plunger lift.	98.236c5iF				PX							
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodology 1, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Tubing pressure, in psia, of each well selected to represent emissions in a tubing size group and pressure group combination that has a plunger lift.	98.236c5iG				PX							
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodology 1, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Annual CO2 emissions (metric tons CO2e).	98.236c5iH			E								
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodology 1, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Annual CH4 emissions (metric tons CO2e).	98.236c5iH			E								
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodologies 2 and 3, report the following for each sub-basin category: Count of wells vented to the atmosphere for liquids unloading.	98.236c5iiA					PX						
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodologies 2 and 3, report the following for each sub-basin category: Count of plunger lifts.	98.236c5iiB					PX						

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W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodologies 2 and 3, report the following for each sub-basin category: Cumulative number of unloadings vented to the atmosphere.	98.236c5iiC		(I)									
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodologies 2 and 3, report the following for each sub-basin category: Average internal casing diameter, in inches, of each well, where applicable.	98.236c5iiD				PX							
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodologies 2 and 3, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Annual CO2 emissions (metric tons CO2e).	98.236c5iiE			E								
W - Petroleum and Natural Gas Systems	For well venting for liquids unloading, for Calculation Methodologies 2 and 3, report the following by each tubing diameter group and pressure group combination within each sub-basin category: Annual CH4 emissions (metric tons CO2e).	98.236c5iiE			E								
W - Petroleum and Natural Gas Systems	For gas well completions with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: Total count of completions in calendar year.	98.236c6iA					PX						
W - Petroleum and Natural Gas Systems	For gas well completions with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: When using Equation W-10A, measured flow rate of backflow during well completion (standard cubic feet per hour).	98.236c6iB		(I)									
W - Petroleum and Natural Gas Systems	For gas well workovers with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: Total count of workovers in calendar year that flare gas or vent gas to the atmosphere.	98.236c6iC					PX						
W - Petroleum and Natural Gas Systems	For gas well workovers with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: When using Equation W-10A, measured flow rate of backflow during well workover (standard cubic feet per hour).	98.236c6iD		(I)									
W - Petroleum and Natural Gas Systems	For gas well completions with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: When using Equation W-10A, total number of days of backflow from all wells during completions.	98.236c6iE		(I)									

			Category											
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For gas well workovers with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: When using Equation W-10A, total number of days of backflow from all wells during workovers.	98.236c6iF		(I)									
W - Petroleum and Natural Gas Systems	For gas well completions with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: Number of completions employing purposely designed equipment that separates natural gas from the backflow.	98.236c6iG					PX						
W - Petroleum and Natural Gas Systems	For gas well completions with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: The amount of natural gas (standard cubic feet) recovered using engineering estimate based on best available data.	98.236c6iG		(I)									
W - Petroleum and Natural Gas Systems	For gas well workovers with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: Number of workovers employing purposely designed equipment that separates natural gas from the backflow.	98.236c6iH					PX						
W - Petroleum and Natural Gas Systems	For gas well workovers with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: The amount of natural gas (standard cubic feet) recovered using engineering estimate based on best available data.	98.236c6iH		(I)									
W - Petroleum and Natural Gas Systems	For gas well completions and workovers with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: Annual CO2 emissions that resulted from venting gas directly to the atmosphere (metric tons CO2e).	98.236c6iI			E								
W - Petroleum and Natural Gas Systems	For gas well completions and workovers with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: Annual CH4 emissions that resulted from venting gas directly to the atmosphere (metric tons CO2e).	98.236c6iI			E								
W - Petroleum and Natural Gas Systems	For gas well completions and workovers with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: Annual CO2 emissions that resulted from flares (metric tons CO2e).	98.236c6iJ			E								

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For gas well completions and workovers with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: Annual CH4 emissions that resulted from flares (metric tons CO2e).	98.236c6iJ			E								
W - Petroleum and Natural Gas Systems	For gas well completions and workovers with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: Annual N2O emissions that resulted from flares (metric tons CO2e).	98.236c6iJ			E								
W - Petroleum and Natural Gas Systems	For gas well completions and workovers without hydraulic fracturing: Total count of completions in calendar year.	98.236c6iiA		(I)									
W - Petroleum and Natural Gas Systems	For gas well completions and workovers without hydraulic fracturing: Total count of workovers in calendar year that flare gas or vent gas to the atmosphere.	98.236c6iiB		(I)									
W - Petroleum and Natural Gas Systems	For gas well completions and workovers without hydraulic fracturing: Total number of days of gas venting to the atmosphere during backflow for completion.	98.236c6iiC					PX						
W - Petroleum and Natural Gas Systems	For gas well completions and workovers without hydraulic fracturing: Annual CO2 emissions that resulted from venting gas directly to the atmosphere (metric tons CO2e).	98.236c6iiD			E								
W - Petroleum and Natural Gas Systems	For gas well completions and workovers without hydraulic fracturing: Annual CH4 emissions that resulted from venting gas directly to the atmosphere (metric tons CO2e).	98.236c6iiD			E								
W - Petroleum and Natural Gas Systems	For gas well completions and workovers without hydraulic fracturing: Annual CO2 emissions that resulted from flares (metric tons CO2e).	98.236c6iiE			E								
W - Petroleum and Natural Gas Systems	For gas well completions and workovers without hydraulic fracturing: Annual CH4 emissions that resulted from flares (metric tons CO2e).	98.236c6iiE			E								
W - Petroleum and Natural Gas Systems	For gas well completions and workovers without hydraulic fracturing: Annual N2O emissions that resulted from flares (metric tons CO2e).	98.236c6iiE			E								
W - Petroleum and Natural Gas Systems	For blowdown vent stack emission source, for each unique physical volume that is blown down more than once during the calendar year: Total number of blowdowns for each unique physical volume in the calendar year (when using Eq. W-14A).	98.236c7iA		I									

			Category											
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For blowdown vent stack emission source, for each unique physical volume that is blown down more than once during the calendar year: Total number of blowdowns for each unique physical volume in the calendar year (when using Eq. W-14B).	98.236c7iA					PX						
W - Petroleum and Natural Gas Systems	For blowdown vent stack emission source, for each unique physical volume that is blown down more than once during the calendar year: Annual CO2 emissions, for each unique physical blowdown volume (metric tons CO2e).	98.236c7iB			E								
W - Petroleum and Natural Gas Systems	For blowdown vent stack emission source, for each unique physical volume that is blown down more than once during the calendar year: Annual CH4 emissions, for each unique physical blowdown volume (metric tons CO2e).	98.236c7iB			E								
W - Petroleum and Natural Gas Systems	For blowdown vent stack emission source, for each unique physical volume that is blown down more than once during the calendar year: A unique name or ID number for the unique physical volume.	98.236c7iC	E										
W - Petroleum and Natural Gas Systems	For blowdown vent stack emission source, for all unique volumes that are blown down once during the calendar year: Total number of blowdowns for all unique physical volumes in the calendar year.	98.236c7iiA					PX						
W - Petroleum and Natural Gas Systems	For blowdown vent stack emission source, for all unique volumes that are blown down once during the calendar year: Annual CO2 emissions, from all unique physical volumes as an aggregate per facility (metric tons CO2e).	98.236c7iiB			E								
W - Petroleum and Natural Gas Systems	For blowdown vent stack emission source, for all unique volumes that are blown down once during the calendar year: Annual CH4 emissions, from all unique volumes as an aggregate per facility (metric tons CO2e).	98.236c7iiB			E								
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Number of wellhead separators sending oil to atmospheric tanks.	98.236c8iA				PX							
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Estimated average separator temperature (degrees Fahrenheit) (when using methodology 1).	98.236c8iB					PX						

			Category											
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Estimated average separator temperature (degrees Fahrenheit) (when using methodology 2).	98.236c8iB					PX						
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Estimated average pressure (psig) (when using methodology 1).	98.236c8iB					PX						
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Estimated average pressure (psig) (when using methodology 2).	98.236c8iB					PX						
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Estimated average sales oil stabilized API gravity (degrees) (when using methodology 1).	98.236c8iC				PX							
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Estimated average sales oil stabilized API gravity (degrees) (when using methodology 2).	98.236c8iC				PX							
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Count of hydrocarbon tanks at well pads.	98.236c8iD				PX							
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Best estimate of count of stock tanks not at well pads receiving your oil.	98.236c8iE				PX							
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Total volume of oil from all wellhead separators sent to tank(s) in barrels per year (when using methodology 1).	98.236c8iF		(l)									

			Category											
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Total volume of oil from all wellhead separators sent to tank(s) in barrels per year (when using methodology 2).	98.236c8iF		(I)										
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Count of tanks with emissions control measures, either vapor recovery system or flaring, for tanks at well pads.	98.236c8iG				PX								
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Best estimate of count of stock tanks assumed to have emissions control measures not at well pads, receiving your oil.	98.236c8iH				PX								
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Range of concentrations of CH4 in flash gas.	98.236c8iI			E									
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Range of concentrations of CO2 in flash gas.	98.236c8iI			E									
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 of 40 CFR 98.233(j), report by sub-basin category: Annual CO2 emissions that resulted from venting gas to the atmosphere (metric tons CO2e), for all wellhead gas-liquid separator or storage tanks using Calculation Methodology 1 of §98.233(j).	98.236c8iJ			E									
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 of 40 CFR 98.233(j), report by sub-basin category: Annual CH4 emissions that resulted from venting gas to the atmosphere (metric tons CO2e), for all wellhead gas-liquid separator or storage tanks using Calculation Methodology 1 of §98.233(j).	98.236c8iJ			E									

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 2 of 40 CFR 98.233(j), report by sub-basin category: Annual CO2 emissions that resulted from venting gas to the atmosphere (metric tons CO2e), for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 2 of §98.233(j).	98.236c8iJ			E								
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 2 of 40 CFR 98.233(j), report by sub-basin category: Annual CH4 emissions that resulted from venting gas to the atmosphere (metric tons CO2e), for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 2 of §98.233(j).	98.236c8iJ			E								
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 of 40 CFR 98.233(j), report by sub-basin category: Annual CO2 gas quantities that were recovered (metric tons CO2e), for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 1 of §98.233(j).	98.236c8iK		I									
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 of 40 CFR 98.233(j), report by sub-basin category: Annual CH4 gas quantities that were recovered (metric tons CO2e), for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 1 of §98.233(j).	98.236c8iK		I									
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 2 of 40 CFR 98.233(j), report by sub-basin category: Annual CO2 gas quantities that were recovered (metric tons CO2e), for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 2 of §98.233(j).	98.236c8iK		I									
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 2 of 40 CFR 98.233(j), report by sub-basin category: Annual CH4 gas quantities that were recovered (metric tons CO2e), for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 2 of §98.233(j).	98.236c8iK		I									

			Category											
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Annual CO2 emissions that resulted from flaring gas (metric tons CO2e), for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 1 and for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 2 of §98.233(j).	98.236c8iL			E								
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Annual CH4 emissions that resulted from flaring gas (metric tons CO2e), for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 1 and for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 2 of §98.233(j).	98.236c8iL			E								
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separator with oil throughput greater than or equal to 10 barrels per day, using Calculation Methodology 1 and 2 of 40 CFR 98.233(j), report by sub-basin category: Annual N2O emissions that resulted from flaring gas (metric tons CO2e), for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 1 and for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 2 of §98.233(j).	98.236c8iL			E								
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Total volume of sales oil from all wells (barrels per year).	98.236c8iiA		(I)									
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Total number of wells sending oil directly to tanks.	98.236c8iiB				PX							
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Total number of wells sending oil to separators off the well pads.	98.236c8iiC				PX							

			Category											
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Sales oil API gravity range (degrees) for wells in 40 CFR 98.236(c)(8)(ii)(B) and (C).	98.236c8iiD				PX							
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Count of hydrocarbon tanks on well pads.	98.236c8iiE				PX							
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Count of hydrocarbon tanks, both on and off well pads assumed to have emissions control measures: either vapor recovery system or flaring of tank vapors.	98.236c8iiF				PX							
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Annual CO2 emissions that resulted from venting gas to the atmosphere (metric tons CO2e), for Calculation Methodology 3 or 4 of §98.233(j).	98.236c8iiG			E								
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Annual CH4 emissions that resulted from venting gas to the atmosphere (metric tons CO2e), for Calculation Methodology 3 or 4 of §98.233(j).	98.236c8iiG			E								
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Annual CO2 gas quantities that were recovered (metric tons CO2e), for Calculation Methodology 3 or 4 of §98.233(j).	98.236c8iiH		I									
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Annual CH4 gas quantities that were recovered (metric tons CO2e), for Calculation Methodology 3 or 4 of §98.233(j).	98.236c8iiH		I									

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Annual CO2 emissions that resulted from flaring gas (metric tons CO2e), for Calculation Methodology 3 or 4 of §98.233(j).	98.236c8iiI			E								
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Annual CH4 emissions that resulted from flaring gas (metric tons CO2e), for Calculation Methodology 3 or 4 of §98.233(j).	98.236c8iiI			E								
W - Petroleum and Natural Gas Systems	For wells with oil production greater than or equal to 10 barrels per day, using Calculation Methodology 3 and 4 of 40 CFR 98.233(j), report the following by sub-basin category: Annual N2O emissions that resulted from flaring gas (metric tons CO2e), for Calculation Methodology 3 or 4 of §98.233(j).	98.236c8iiI			E								
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W-15 of 40 CFR 98.233: Number of wellhead separators.	98.236c8iiiA		(I)									
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W–15 of 40 CFR 98.233: Number of wells without wellhead separators.	98.236c8iiiB		(I)									
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W–15 of 40 CFR 98.233: Total volume of oil production in barrels per year.	98.236c8iii C								C			
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W-15 of 40 CFR 98.233: Best estimate of fraction of production sent to tanks with assumed control measures: either vapor recovery system or flaring of tank vapors.	98.236c8iii D					PX						
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W-15 of 40 CFR 98.233: Count of hydrocarbon tanks on well pads.	98.236c8iiiE				PX							

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W-15 of 40 CFR 98.233: Annual CO2 emissions that resulted from venting gas to the atmosphere (metric tons CO2e), at the sub-basin level for Calculation Methodology 5 of §98.233(j).	98.236c8iiiF			E								
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W-15 of 40 CFR 98.233: Annual CH4 emissions that resulted from venting gas to the atmosphere (metric tons CO2e), at the sub-basin level for Calculation Methodology 5 of §98.233(j).	98.236c8iiiF			E								
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W-15 of 40 CFR 98.233: Annual CO2 gas quantities that were recovered (metric tons CO2e), at the sub-basin level for Calculation Methodology 5 of §98.233(j).	98.236c8iiiG		I									
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W-15 of 40 CFR 98.233: Annual CH4 gas quantities that were recovered (metric tons CO2e), at the sub-basin level for Calculation Methodology 5 of §98.233(j).	98.236c8iiiG		I									
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W-15 of 40 CFR 98.233: Annual CO2 emissions that resulted from flaring gas (metric tons CO2e), at the sub-basin level for Calculation Methodology 5 of §98.233(j).	98.236c8iiiH			E								
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W-15 of 40 CFR 98.233: Annual CH4 emissions that resulted from flaring gas (metric tons CO2e), at the sub-basin level for Calculation Methodology 5 of §98.233(j).	98.236c8iiiH			E								
W - Petroleum and Natural Gas Systems	For wellhead gas-liquid separators and wells with throughput less than 10 barrels per day, using Calculation Methodology 5 of 40 CFR 98.233(j) Equation W-15 of 40 CFR 98.233: Annual N2O emissions that resulted from flaring gas (metric tons CO2e), at the sub-basin level for Calculation Methodology 5 of §98.233(j).	98.236c8iiiH			E								

			Category											
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	If wellhead separator dump valve is functioning improperly during the calendar year: Count of wellhead separators that dump valve factor is applied.	98.236c8iv A					PX						
W - Petroleum and Natural Gas Systems	If wellhead separator dump valve is functioning improperly during the calendar year: Annual CO2 emissions that resulted from venting gas to the atmosphere (metric tons CO2e) at the sub-basin level for improperly functioning dump valves.	98.236c8iv B			E								
W - Petroleum and Natural Gas Systems	If wellhead separator dump valve is functioning improperly during the calendar year: Annual CH4 emissions that resulted from venting gas to the atmosphere (metric tons CO2e) at the sub-basin level for improperly functioning dump valves.	98.236c8iv B			E								
W - Petroleum and Natural Gas Systems	For transmission tank emissions identified using optical gas imaging instrument per §98.234(a) (refer to §98.233(k)), or acoustic leak detection of scrubber dump valves, report the following: For each vent stack, annual CO2 emissions that resulted from venting gas directly to the atmosphere (metric tons CO2e).	98.236c9i			E								
W - Petroleum and Natural Gas Systems	For transmission tank emissions identified using optical gas imaging instrument per §98.234(a) (refer to §98.233(k)), or acoustic leak detection of scrubber dump valves, report the following: For each vent stack, annual CH4 emissions that resulted from venting gas directly to the atmosphere (metric tons CO2e).	98.236c9i			E								
W - Petroleum and Natural Gas Systems	For transmission tank emissions identified using optical gas imaging instrument per §98.234(a) (refer to §98.233(k)), or acoustic leak detection of scrubber dump valves, report the following: Annual CO2 emissions for each transmission storage tank that resulted from flaring process gas from the transmission storage tank (metric tons CO2e).	98.236c9ii			E								
W - Petroleum and Natural Gas Systems	For transmission tank emissions identified using optical gas imaging instrument per §98.234(a) (refer to §98.233(k)), or acoustic leak detection of scrubber dump valves, report the following: Annual CH4 emissions for each transmission storage tank that resulted from flaring process gas from the transmission storage tank (metric tons CO2e).	98.236c9ii			E								

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For transmission tank emissions identified using optical gas imaging instrument per §98.234(a) (refer to §98.233(k)), or acoustic leak detection of scrubber dump valves, report the following: Annual N2O emissions for each transmission storage tank that resulted from flaring process gas from the transmission storage tank (metric tons CO2e).	98.236c9ii			E								
W - Petroleum and Natural Gas Systems	For transmission tank emissions identified using optical gas imaging instrument per §98.234(a) (refer to §98.233(k)), or acoustic leak detection of scrubber dump valves, report the following: A unique name or ID number for the vent stack monitored according to 40 CFR 98.233(k).	98.236c9iii	E										
W - Petroleum and Natural Gas Systems	For well testing venting and flaring: Number of wells tested per basin in calendar year.	98.236c10i					PX						
W - Petroleum and Natural Gas Systems	For well testing venting and flaring: Average gas to oil ratio for each basin.	98.236c10ii					PX						
W - Petroleum and Natural Gas Systems	For well testing venting and flaring: Average number of days the well is tested in a basin.	98.236c10iii					PX						
W - Petroleum and Natural Gas Systems	For well testing venting: Annual CO2 emissions at the facility level (metric tons CO2e) from well testing venting.	98.236c10iv			E								
W - Petroleum and Natural Gas Systems	For well testing venting: Annual CH4 emissions at the facility level (metric tons CO2e) from well testing venting.	98.236c10iv			E								
W - Petroleum and Natural Gas Systems	For well testing flaring: Annual CO2 emissions at the facility level (metric tons CO2e) from well testing flaring.	98.236c10v			E								
W - Petroleum and Natural Gas Systems	For well testing flaring: Annual CH4 emissions at the facility level (metric tons CO2e) from well testing flaring.	98.236c10v			E								
W - Petroleum and Natural Gas Systems	For well testing flaring: Annual N2O emissions at the facility level (metric tons CO2e) from well testing flaring.	98.236c10v			E								
W - Petroleum and Natural Gas Systems	For associated natural gas venting and flaring for each basin: Number of wells venting or flaring associated natural gas in a calendar year.	98.236c11i					PX						
W - Petroleum and Natural Gas Systems	For associated natural gas venting and flaring for each basin: Average gas to oil ratio.	98.236c11ii					PX						
W - Petroleum and Natural Gas Systems	For associated natural gas venting for each basin: Annual CO2 emissions at the facility level (metric tons CO2e) at the facility level from associated natural gas venting.	98.236c11iii			E								

			Category											
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For associated natural gas venting for each basin: Annual CH4 emissions at the facility level (metric tons CO2e) at the facility level from associated natural gas venting.	98.236c11iii			E								
W - Petroleum and Natural Gas Systems	For associated natural gas flaring for each basin: Annual CO2 emissions at the facility level (metric tons CO2e) at the facility level from associated natural gas flaring.	98.236c11iv			E								
W - Petroleum and Natural Gas Systems	For associated natural gas flaring for each basin: Annual CH4 emissions at the facility level (metric tons CO2e) at the facility level from associated natural gas flaring.	98.236c11iv			E								
W - Petroleum and Natural Gas Systems	For associated natural gas flaring for each basin: Annual N2O emissions at the facility level (metric tons CO2e) at the facility level from associated natural gas flaring.	98.236c11iv			E								
W - Petroleum and Natural Gas Systems	For flare stacks, for each flare: Whether flare has a continuous flow monitor.	98.236c12i							X				
W - Petroleum and Natural Gas Systems	For flare stacks, for each flare: Volume of gas sent to flare (cubic feet per year).	98.236c12ii		(I)									
W - Petroleum and Natural Gas Systems	For flare stacks, for each flare: Percent of gas sent to un-lit flare determined by engineering estimate and process knowledge based on best available data and operating records.	98.236c12iii					PX						
W - Petroleum and Natural Gas Systems	For flare stacks, for each flare: Whether flare has a continuous gas analyzer.	98.236c12iv							X				
W - Petroleum and Natural Gas Systems	For flare stacks, for each flare: Flare combustion efficiency.	98.236c12v		(I)									
W - Petroleum and Natural Gas Systems	For flare stacks, for each flare: Uncombusted CH4 emissions (metric tons CO2e) (refer to Equation W-19 of §98.233).	98.236c12vi			E								
W - Petroleum and Natural Gas Systems	For flare stacks, for each flare: Uncombusted CO2 emissions (metric tons CO2e) (refer to Equation W-20 of §98.233).	98.236c12vii			E								
W - Petroleum and Natural Gas Systems	For flare stacks, for each flare: Combusted CO2 emissions (metric tons CO2e) (refer to Equation W-21 of §98.233).	98.236c12viii			E								
W - Petroleum and Natural Gas Systems	For flare stacks, for each flare: N2O emissions (metric tons CO2e).	98.236c12ix			E								
W - Petroleum and Natural Gas Systems	For flare stacks, for each flare in the natural gas processing industry segment: A unique name or ID number for the flare stack.	98.236c12x	E										

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For flare stacks, for each flare, in the case that a CEMS is used to measure CO2 emissions for the flare stack, indicate that a CEMS was used in the annual report.	98.236c12xi						E					
W - Petroleum and Natural Gas Systems	For flare stacks, for each flare, in the case that a CEMS is used to measure CO2 emissions for the flare stack, report the combusted CO2 and uncombusted CO2 as a combined number.	98.236c12xi			E								
W - Petroleum and Natural Gas Systems	For each centrifugal compressor with wet seals in operational mode, report the following for each degassing vent: Number of wet seals connected to the degassing vent.	98.236c13iA				PX							
W - Petroleum and Natural Gas Systems	For each centrifugal compressor with wet seals in operational mode, report the following for each degassing vent: Fraction of vent gas recovered for fuel or sales or flared.	98.236c13iB					PX						
W - Petroleum and Natural Gas Systems	For each centrifugal compressor with wet seals in operational mode, report the following for each degassing vent: Annual throughput in million scf (using an engineering calculation based on best available data).	98.236c13iC								C			
W - Petroleum and Natural Gas Systems	For each centrifugal compressor with wet seals in operational mode, report the following for each degassing vent: Type of meters used for making measurements.	98.236c13iD							X				
W - Petroleum and Natural Gas Systems	For each centrifugal compressor with wet seals in operational mode, report the following for each degassing vent: Reporter emission factor for wet seal oil degassing vents in cubic feet per hour (refer to Equation W-24 of §98.233).	98.236c13iE		(I)									
W - Petroleum and Natural Gas Systems	For each centrifugal compressor with wet seals in operational mode, report the following for each degassing vent: Total time the compressor is operating (hours).	98.236c13iF		(I)									
W - Petroleum and Natural Gas Systems	For each centrifugal compressor with wet seals in operational mode, report the following for each degassing vent: Seal oil degassing vent emissions for compressors measured (refer to Equation W-22 of §98.233).	98.236c13iG			E								
W - Petroleum and Natural Gas Systems	For each centrifugal compressor with wet seals in operational mode, report the following for each degassing vent: Seal oil degassing vent emissions for compressors not measured (refer to Equations W-23 and W-24 of §98.233).	98.236c13iG			E								
W - Petroleum and Natural Gas Systems	For each wet seal and each dry seal centrifugal compressor in operating mode: Total time the compressor is in operating mode (hours).	98.236c13iiA		(I)									

			Category											
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For each wet seal and each dry seal centrifugal compressor in operating mode: Reporter emission factor for blowdown vents (cubic feet per hour) (refer to Equation W-24 of §98.233).	98.236c13ii B		(I)									
W - Petroleum and Natural Gas Systems	For each wet seal and each dry seal centrifugal compressor in operating mode: Blowdown vent emissions (refer to Equations W-23 and W-24 of §98.233).	98.236c13ii C			E								
W - Petroleum and Natural Gas Systems	For each wet seal and each dry seal centrifugal compressor in not operating, depressurized mode: Total time the compressor is in shutdown, depressurized mode (hours).	98.236c13iii A		(I)									
W - Petroleum and Natural Gas Systems	For each wet seal and each dry seal centrifugal compressor in not operating, depressurized mode: Reporter emission factor for isolation valve emissions in shutdown, depressurized mode (cubic feet per hour) (refer to Equation W-24 of §98.233).	98.236c13iii B		(I)									
W - Petroleum and Natural Gas Systems	For each wet seal and each dry seal centrifugal compressor in not operating, depressurized mode: Isolation valve leakage emissions in not operating, depressurized mode (cubic feet per hour) (refer to Equations W-23 and W-24 of §98.233).	98.236c13iii C			E								
W - Petroleum and Natural Gas Systems	Total annual compressor emissions from all modes of operation (refer to Equation W-24 of §98.233).	98.236c13iv			E								
W - Petroleum and Natural Gas Systems	For centrifugal compressors in onshore petroleum and natural gas production: Count of compressors.	98.236c13v A		(I)									
W - Petroleum and Natural Gas Systems	For centrifugal compressors in onshore petroleum and natural gas production: Report emissions collectively.	98.236c13v B			E								
W - Petroleum and Natural Gas Systems	For reciprocating compressors rod packing emissions with or without a vent in operating mode: Annual throughput (million scf), using an engineering calculation based on best available data.	98.236c14i A								C			
W - Petroleum and Natural Gas Systems	For reciprocating compressors rod packing emissions with or without a vent in operating mode: Total time the reciprocating compressor is in operating mode (hours).	98.236c14i B		(I)									
W - Petroleum and Natural Gas Systems	For reciprocating compressors rod packing emissions with or without a vent in operating mode: Rod packing emissions for compressors measured (refer to Equation W-26 of §98.233)	98.236c14i C			E								

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For reciprocating compressors rod packing emissions with or without a vent in operating mode: Rod packing emissions for compressors not measured (refer to Equations W-27 and W-28 of §98.233)	98.236c14iC			E								
W - Petroleum and Natural Gas Systems	For reciprocating compressors blowdown vents not manifold to rod packing vents, in operating and standby pressurized mode: Total time the compressor is in standby, pressurized mode (hours).	98.236c14iiA		(I)									
W - Petroleum and Natural Gas Systems	For reciprocating compressors blowdown vents not manifold to rod packing vents, in operating and standby pressurized mode: Reporter emission factor for blowdown vents (cubic feet per hour) (refer to Equation W-28 of §98.233).	98.236c14iiB		(I)									
W - Petroleum and Natural Gas Systems	For reciprocating compressors blowdown vents not manifold to rod packing vents, in operating and standby pressurized mode: Blowdown vent emissions when in operating and standby pressurized modes (refer to Equations W-27 and W-28 of §98.233).	98.236c14iiC			E								
W - Petroleum and Natural Gas Systems	For reciprocating compressors in not operating, depressurized mode: Total time the compressor is in not operating, depressurized mode.	98.236c14iiiA		(I)									
W - Petroleum and Natural Gas Systems	For reciprocating compressors in not operating, depressurized mode: Reporter emission factor for isolation valve emissions in not operating, depressurized mode (cubic feet per hour) (refer to Equation W-28 of §98.233).	98.236c14iiiB		(I)									
W - Petroleum and Natural Gas Systems	For reciprocating compressors in not operating, depressurized mode: Isolation valve leakage emissions in not operating, depressurized mode.	98.236c14iiiC			E								
W - Petroleum and Natural Gas Systems	Total annual compressor emissions from all modes of operation (refer to Equations W-27 and W-28 of §98.233).	98.236c14iv			E								
W - Petroleum and Natural Gas Systems	For reciprocating compressors in onshore petroleum and natural gas production: Count of compressors.	98.236c14vA		(I)									
W - Petroleum and Natural Gas Systems	For reciprocating compressors in onshore petroleum and natural gas production: Report emissions collectively.	98.236c14vB			E								

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For each component type (major equipment type for onshore production) that uses emission factors for estimating emissions (refer to §98.233(q) and (r)): For equipment leaks found in each leak survey: Total count of leaks found in each complete survey listed by date of survey and each component type for which there is a leaker emission factor in Tables W-2, W-3, W-4, W-5, W-6, and W-7 of this subpart.	98.236c15iA					PX						
W - Petroleum and Natural Gas Systems	For each component type (major equipment type for onshore production) that uses emission factors for estimating emissions (refer to §98.233(q) and (r)): For equipment leaks found in each leak survey: For onshore natural gas processing, range of concentrations of CO2 (refer to Equation W-30 of 40 CFR 98.233).	98.236c15iB					PX						
W - Petroleum and Natural Gas Systems	For each component type (major equipment type for onshore production) that uses emission factors for estimating emissions (refer to §98.233(q) and (r)): For equipment leaks found in each leak survey: For onshore natural gas processing, range of concentrations of CH4 (refer to Equation W-30 of 40 CFR 98.233).	98.236c15iB					PX						
W - Petroleum and Natural Gas Systems	For each component type (major equipment type for onshore production) that uses emission factors for estimating emissions (refer to §98.233(q) and (r)): For equipment leaks found in each leak survey: Annual CH4 emissions (refer to Equation W-30 of 40 CFR 98.233) by component type (metric tons CO2e).	98.236c15iC			E								
W - Petroleum and Natural Gas Systems	For each component type (major equipment type for onshore production) that uses emission factors for estimating emissions (refer to §98.233(q) and (r)): For equipment leaks found in each leak survey: Annual CO2 emissions (refer to Equation W-30 of 40 CFR 98.233) by component type (metric tons CO2e).	98.236c15iC			E								
W - Petroleum and Natural Gas Systems	For each component type (major equipment type for onshore production) that uses emission factors for estimating emissions (refer to §98.233(q) and (r)): For equipment leaks calculated using population counts and factors: For source categories 40 CFR 98.230(a)(4), (a)(5), (a)(6), (a)(7), and (a)(8), total count for each component type in Tables W-2, W-3, W-4, W-5, and W-6 of this subpart for which there is a population emission factor, listed by major heading and component type.	98.236c15iiA		(I)									

			Category											
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For each component type (major equipment type for onshore production) that uses emission factors for estimating emissions (refer to §98.233(q) and (r)): For equipment leaks calculated using population counts and factors: For onshore production (refer to 40 CFR 98.230 paragraph (a)(2)), total count for each type of major equipment in Table W-1B and Table W-1C of this subpart, by facility.	98.236c15ii B		(I)										
W - Petroleum and Natural Gas Systems	For each component type (major equipment type for onshore production) that uses emission factors for estimating emissions (refer to §98.233(q) and (r)): For equipment leaks calculated using population counts and factors: Annual CH4 emissions (refer to Equation W-31 of 40 CFR 98.233) by component type (metric tons CO2e).	98.236c15ii C			E									
W - Petroleum and Natural Gas Systems	For each component type (major equipment type for onshore production) that uses emission factors for estimating emissions (refer to §98.233(q) and (r)): For equipment leaks calculated using population counts and factors: Annual CO2 emissions (refer to Equation W-31 of 40 CFR 98.233) by component type (metric tons CO2e).	98.236c15ii C			E									
W - Petroleum and Natural Gas Systems	For local distribution companies: Total number of above grade T-D transfer stations in the facility.	98.236c16i				PX								
W - Petroleum and Natural Gas Systems	For local distribution companies: Number of years over which all T-D transfer stations will be monitored at least once.	98.236c16ii							X					
W - Petroleum and Natural Gas Systems	For local distribution companies: Number of T-D stations monitored in calendar year.	98.236c16iii							X					
W - Petroleum and Natural Gas Systems	For local distribution companies: Total number of below grade T-D transfer stations in the facility.	98.236c16iv				PX								
W - Petroleum and Natural Gas Systems	For local distribution companies: Total number of above grade metering-regulating stations (this count will include above grade T-D transfer stations) in the facility.	98.236c16v				PX								
W - Petroleum and Natural Gas Systems	For local distribution companies: Total number of below grade metering-regulating stations (this count will include below grade T-D transfer stations) in the facility.	98.236c16vi				PX								
W - Petroleum and Natural Gas Systems	[Reserved]	98.236c16vii												
W - Petroleum and Natural Gas Systems	For local distribution companies: Leak factor for meter/regulator run developed in Equation W-32 of §98.233.	98.236c16viii		(I)										

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For local distribution companies: Number of miles of unprotected steel distribution mains.	98.236c16ix		(I)									
W - Petroleum and Natural Gas Systems	For local distribution companies: Number of miles of protected steel distribution mains.	98.236c16x		(I)									
W - Petroleum and Natural Gas Systems	For local distribution companies: Number of miles of plastic distribution mains.	98.236c16xi		(I)									
W - Petroleum and Natural Gas Systems	For local distribution companies: Number of miles of cast iron distribution mains.	98.236c16xii		(I)									
W - Petroleum and Natural Gas Systems	For local distribution companies: Number of unprotected steel distribution services.	98.236c16xiii		(I)									
W - Petroleum and Natural Gas Systems	For local distribution companies: Number of protected steel distribution services.	98.236c16xiv		(I)									
W - Petroleum and Natural Gas Systems	For local distribution companies: Number of plastic distribution services.	98.236c16xv		(I)									
W - Petroleum and Natural Gas Systems	For local distribution companies: Number of copper distribution services.	98.236c16xvi		(I)									
W - Petroleum and Natural Gas Systems	For local distribution companies: Annual CO2 emissions from all above grade T-D transfer stations combined (metric tons CO2e).	98.236c16xvii			E								
W - Petroleum and Natural Gas Systems	For local distribution companies: Annual CH4 emissions from all above grade T-D transfer stations combined (metric tons CO2e).	98.236c16xvii			E								
W - Petroleum and Natural Gas Systems	For local distribution companies: Annual CO2 emissions from all below grade T-D transfer stations combined (metric tons CO2e).	98.236c16xviii			E								
W - Petroleum and Natural Gas Systems	For local distribution companies: Annual CH4 emissions from all below grade T-D transfer stations combined (metric tons CO2e).	98.236c16xviii			E								
W - Petroleum and Natural Gas Systems	For local distribution companies: Annual CO2 emissions from all above grade metering-regulating stations (including T-D transfer stations) combined (metric tons CO2e).	98.236c16xix			E								
W - Petroleum and Natural Gas Systems	For local distribution companies: Annual CH4 emissions from all above grade metering-regulating stations (including T-D transfer stations) combined (metric tons CO2e).	98.236c16xix			E								

			Category											
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For local distribution companies: Annual CO2 emissions from all below grade metering-regulating stations (including T-D transfer stations) combined (metric tons CO2e).	98.236c16x x			E								
W - Petroleum and Natural Gas Systems	For local distribution companies: Annual CH4 emissions from all below grade metering-regulating stations (including T-D transfer stations) combined (metric tons CO2e).	98.236c16x x			E								
W - Petroleum and Natural Gas Systems	For local distribution companies: Annual CO2 emissions from all distribution mains combined (metric tons CO2e).	98.236c16x xi			E								
W - Petroleum and Natural Gas Systems	For local distribution companies: Annual CH4 emissions from all distribution mains combined (metric tons CO2e).	98.236c16x xi			E								
W - Petroleum and Natural Gas Systems	For local distribution companies: Annual CO2 emissions from all distribution services combined (metric tons CO2e).	98.236c16x xii			E								
W - Petroleum and Natural Gas Systems	For local distribution companies: Annual CH4 emissions from all distribution services combined (metric tons CO2e).	98.236c16x xii			E								
W - Petroleum and Natural Gas Systems	For each EOR injection pump blowdown: Pump capacity (barrels per day).	98.236c17i				PX							
W - Petroleum and Natural Gas Systems	For each EOR injection pump blowdown: Volume of critical phase gas between isolation valves.	98.236c17ii		(I)									
W - Petroleum and Natural Gas Systems	For each EOR injection pump blowdown: Number of blowdowns per year.	98.236c17iii		(I)									
W - Petroleum and Natural Gas Systems	For each EOR injection pump blowdown: Critical phase EOR injection gas density.	98.236c17iv		(I)									
W - Petroleum and Natural Gas Systems	For each EOR injection pump blowdown: For each EOR pump, annual CO2 emissions (metric tons CO2e).	98.236c17v			E								
W - Petroleum and Natural Gas Systems	For each EOR injection pump blowdown: For each EOR pump, annual CH4 emissions (metric tons CO2e).	98.236c17v			E								
W - Petroleum and Natural Gas Systems	For EOR hydrocarbon liquids dissolved CO2 for each sub-basin category: Volume of crude oil produced (barrels per year).	98.236c18i		(I)									
W - Petroleum and Natural Gas Systems	For EOR hydrocarbon liquids dissolved CO2 for each sub-basin category: Amount of CO2 retained in hydrocarbon liquids (metric tons per barrel), under standard conditions.	98.236c18ii		(I)									

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For EOR hydrocarbon liquids dissolved CO2 for each sub-basin category: Annual CO2 emissions at the sub-basin level (metric tons CO2e).	98.236c18iii			E								
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production and natural gas distribution combustion emissions: Cumulative number of external fuel combustion units with a rated heat capacity equal to or less than 5 mmBtu/hr, by type of unit.	98.236c19i				PX							
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production and natural gas distribution combustion emissions: Cumulative number of external fuel combustion units with a rated heat capacity larger than 5 mmBtu/hr, by type of unit.	98.236c19ii				PX							
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production and natural gas distribution combustion emissions: Annual CO2 emissions from external fuel combustion units with a rated heat capacity larger than 5 mmBtu/hr (metric tons CO2e), by type of unit.	98.236c19iii			E								
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production and natural gas distribution combustion emissions: Annual CH4 emissions from external fuel combustion units with a rated heat capacity larger than 5 mmBtu/hr (metric tons CO2e), by type of unit.	98.236c19iii			E								
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production and natural gas distribution combustion emissions: Annual N2O emissions from external fuel combustion units with a rated heat capacity larger than 5 mmBtu/hr (metric tons CO2e), by type of unit.	98.236c19iii			E								
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production and natural gas distribution combustion emissions: Cumulative volume of fuel combusted in external fuel combustion units with a rated heat capacity larger than 5 mmBtu/hr, by fuel type.	98.236c19iv		(I)									
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production and natural gas distribution combustion emissions: Cumulative number of internal fuel combustion units, not compressor-drivers, with a rated heat capacity equal to or less than 1 mmBtu/hr or 130 horse power, by type of unit.	98.236c19v				PX							
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production and natural gas distribution combustion emissions: Annual CO2 emissions from internal combustion units greater than 1mmBtu/hr (metric tons CO2e), by type of unit.	98.236c19vi			E								

			Category										
Subpart	Data Element	Reporting Section	Facility and Unit Identifier Information (Emission Data)	Inputs to Emission Equations	Emissions (Emission Data)	Unit/Process Static Characteristics That are Not Inputs to Emission Equations	Unit/Process Operating Characteristics That are Not Inputs to Emission Equations	Calculation Methodology & Method. Tier (Emission Data)	Test & Calibration Methods (Not Emission Data And Not CBI)	Production/ Throughput Data That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Raw Materials Consumed That are Not Inputs to Emission Equations (Not Emission Data And Are CBI)	Data Elements Reported for Periods of Missing Data that are Not Inputs to Emission Equations (Emission Data)	Process Specific & Vendor Data Submitted in BAMM Extension Requests (Not Emission Data And Are CBI)
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production and natural gas distribution combustion emissions: Annual CH4 emissions from internal combustion units greater than 1mmBtu/hr (metric tons CO2e), by type of unit.	98.236c19vi			E								
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production and natural gas distribution combustion emissions: Annual N2O emissions from internal combustion units greater than 1mmBtu/hr (metric tons CO2e), by type of unit.	98.236c19vi			E								
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production and natural gas distribution combustion emissions: Cumulative volume of fuel combusted in internal combustion units with a rated heat capacity larger than 1 mmBtu/hr or 130 horsepower, by fuel type.	98.236c19vi i		(I)									
W - Petroleum and Natural Gas Systems	Report annual throughput as determined by engineering estimate based on best available data for each industry segment listed in paragraphs (a)(1) through (a)(8) of this section.	98.236d								C			
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production, report the best available estimate of API gravity for each oil sub-basin category.	98.236e					PX						
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production, report the best available estimate of gas to oil ratio for each oil sub-basin category.	98.236e					PX						
W - Petroleum and Natural Gas Systems	For onshore petroleum and natural gas production, report the best available estimate of average low pressure separator pressure for each oil sub-basin category.	98.236e					PX						