MEMORANDUM

DATE: August 2013

TO: Docket EPA-HQ-OAR-2010-0929

FROM: Lisa Grogan-McCulloch, U.S. EPA

SUBJECT: **Summary of Data Collected to Support Determination of Public Availability of Inputs to Emission Equations for which Reporting was Deferred to March 31, 2015**

1.0 Introduction and Purpose of Analysis

In the August 25, 2011 final rule deferring reporting to March 31, 2015 of certain inputs to emission equations under 40 CFR part 98 (76 FR 53057), the EPA expressed its intent to further evaluate the inputs to emission equations to determine which, if any, could result in competitive harm if made publicly available. The EPA outlined a four-step process for this evaluation in the final rule, and in a supporting memorandum entitled "Process for Evaluating and Potentially Amending Part 98 Inputs to Emission Equations" (docket EPA-HQ-OAR-2010-0929).

The purpose of this memorandum is to describe the review undertaken for the first step of the evaluation process: the EPA's analysis of public availability of the inputs to emission equations deferred to March 31, 2015 (hereafter referred to as "inputs to equations"). The review was undertaken for 27 of the 28 subparts of the greenhouse gas reporting program (GHGRP) with "inputs to equations" data elements.[1]

Section 2.0 of this memorandum presents the procedures used to collect and review "inputs to equations" data elements. Section 3.0 presents a summary of the information sources reviewed. Section 4.0 presents a summary of the "inputs to equations" data elements that were evaluated to be the same as publicly available information. Appendix A lists the "inputs to equations" data elements. Appendix B provides detail on the data gathered from each of the sources reviewed for the subparts analyzed. Appendix C provides additional detail on data gathered to evaluate references cited by commenters to various GHGRP Federal Register notices that data on the "inputs to equations" data elements were publicly available.

[1] The review was not conducted for 2015 data inputs in subpart I because reporting of the "inputs to equations" data elements for that subpart was addressed in a separate proposed action [see 77 FR 63538]. Additionally, the evaluation of the subpart C "inputs to equations" in this memorandum encompasses the one subpart A "input to equation" data element. As a result, the one subpart A "input to equation" is not listed explicitly in this memorandum.

2.0 Procedure for Collecting Supporting Data

A search was conducted to identify publicly available data that are identical to the "inputs to equations" data elements. Data sources that were reviewed included federal, local, and state inventory databases (e.g., clean air markets division (CAMD) for the acid rain program and the national emissions inventory (NEI); rulemaking dockets; Title V permits; trade and technical journals; internet searches; and sources identified in comments to the call for information or Federal Register deferral notices.) Section 3.0 presents a detailed summary of the sources reviewed.

Data were evaluated on whether they were the same as the "inputs to equations" data elements. Information was also gathered to help characterize whether publicly available data are representative of part 98 reporters. This characterization consisted of identifying:

- The number of reporters represented by the data;
- The age of the data; and
- The frequency of data availability (i.e., whether the data were publicly available on a one-time basis or are publicly available on a recurring basis).

3.0 Sources Reviewed

As noted in Section 2.0, various sources of information were reviewed to determine the public availability or non-availability of each "inputs to equations" data elements. Sections 3.1 through 3.6 discuss the specific sources of data reviewed for this evaluation. Tables 4-1 through 4-3 in section 4.0 summarize the results of the data gathering.

3.1 Regulatory Development Dockets

Dockets containing supporting information used to develop air regulations, such as National Emission Standards for Hazardous Air Pollutants (NESHAP) and New Source Performance Standards (NSPS), were reviewed to identify data that are the same as the "inputs to equations" data elements. As shown in Table 3-1, the EPA identified dockets relevant to 15 of the 27 industry subparts included in this review.

The age of the data varies between 1992 and 2009, depending on the years the regulation was under development. Section 4.0 summarizes the information found in the regulatory development dockets that is the same as the "inputs to equations" data elements. References for information and data from rule development dockets are listed as items A-1 through A-134 in Section 5.0.

Table 3-1. Summary of Regulatory Development Dockets Identified as Applicable for Each GHG Subpart

Subpart	Dockets Reviewed	Docket Number
C	NESHAP for Industrial, Commercial, and	EPA-HQ-OAR-2006-0790

Subpart	Dockets Reviewed	Docket Number
	Institutional Boilers and Process Heaters - Area Sources (40 CFR part 63 subpart JJJJJJ)	
	NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters - Major Sources (40 CFR part 63 subpart DDDDD)	EPA-HQ-OAR-2002-0058
E	No applicable docket identified	
F	NESHAP for Primary Aluminum (40 CFR part 63 subpart LL)	A-92-60; EPA-HQ-OAR-2002-0032
G	No applicable docket identified	
H	NESHAP for Portland Cement Manufacturing (40 CFR part 63 subpart LLL)	A-92-53; EPA-HQ-OAR-2002-0051
K	NESHAP for Ferroalloys Manufacturing – Area Sources (40 CFR part 63 subpart YYYYYY)	EPA-HQ-OAR-2008-0154
	NESHAP from Ferroalloys Production: Ferromanganese and Silicomanganese (40 CFR part 63 subpart XXX)	EPA-HQ-OAR-2004-0375, EPA-HQ-OAR-2010-0895
L	No applicable docket identified	
N	NESHAP for Glass Manufacturing – Area Sources (40 CFR part 63 subpart SSSSSS)	EPA-HQ-OAR-2006-0360
O	No applicable docket identified	
P	No applicable docket identified	
Q	NESHAP for Electric Arc Furnace Steelmaking Facilities - Area Sources (40 CFR part 63 subpart YYYYY)	EPA-HQ-OAR- 2004-0083
R	NESHAP for Primary Lead Smelting (40 CFR part 63 subpart TTT)	A-97-33; EPA-HQ-OAR-2004-0305
	NESHAP for Secondary Lead Smelting Amendments Based on the Risk and Technology Review (40 CFR part 63 subpart X)	A-92-43; EPA-HQ-OAR-2011-0344;
S	NESHAP for Lime Manufacturing (40 CFR part 63 subpart AAAAA)	A-95-41; EPA-HQ-OAR-2002-0052
U	No applicable docket identified	
V	NSPS for Nitric Acid Plants (40 CFR part 60 subpart G)	EPA-HQ-OECA-2009-0525; EPA-HQ-OECA-2006-0437; EPA-HQ-OECA-2003-0030
W	NESHAP for Oil and Natural Gas Production, including Area Sources (40 CFR part 63 subpart HH)	A-94-04; EPA-HQ-OAR-2004-0238; EPA-HQ-OAR-2004-0383
	NESHAP for Natural Gas Transmission and Storage (40 CFR part 63 subpart HHH)	A-94-04; EPA-HQ-OAR-2004-0238; EPA-HQ-OAR-2004-0383
	NSPS for New Stationary Sources of Oil and Natural Gas Production and Natural Gas Transmission and Distribution (40 CFR 60 subpart OOOO)	EPA-HQ-OAR-2010-0505
X	NESHAP for Ethylene Processes (40 CFR part 63	A-2000-14;

Subpart	Dockets Reviewed	Docket Number
	subparts YY and UU)	EPA-HQ-OAR-2004-0411
Y	NSPS for Petroleum Refineries (40 CFR part 60 subpart J)	EPA-HQ- OAR-2007-0011
Z	NESHAP for Phosphoric Acid / Phosphate Fertilizers (40 CFR part 63 subpart AA)	A-94-02; EPA-HQ-OAR-2004-0382
AA	NESHAP for Pulp and Paper (40 CFR part 63 subpart S)	A-92-40; EPA-OAR-2002-0045; EPA-HQ-OAR-2007-0544
	NSPS for Kraft Pulp Mills (40 CFR part 60 subpart BB)	EPA-HQ-OECA-2011-0242; EPA-HQ-OAR-2007-0544
BB	No applicable docket identified	
CC	No applicable docket identified	
EE	No applicable docket identified	
GG	NESHAP for Nonferrous Foundries: Aluminum, Copper, and Other – Area Sources (40 CFR part 63 subpart ZZZZZZ)	EPA-HQ-OAR-2008-0236
	NESHAP for 4 Area Source Categories (Including amendments to National Emission Standards for Hazardous Air Pollutants for Primary Copper Smelting and Secondary Copper Smelting, and Primary nonferrous metals-Zinc, Cadmium, and Beryllium)	EPA-HQ-OAR-2006-0510
II	No applicable docket identified	
TT	No applicable docket identified	

3.2 Title V Operating Permits

Most large emission sources, and some smaller sources, are required to obtain Title V operating permits. Title V operating permits that were available online were reviewed for public availability of the "inputs to equations" data elements. Title V permits were not reviewed for states that did not have them available online. For most subparts, permits were reviewed for at least 10 percent of the facilities reporting under each applicable subpart (if available online). Due to the large number of sources subject to subparts C and AA, the number of permits reviewed was capped at 10 for subpart C and 15 for subpart AA. For industry sectors in which reporters are located in multiple states, Title V permits were reviewed for facilities in most, if not all, applicable states. Table 3-2 summarizes the number of Title V permits reviewed for each GHG subpart and the states for which the permits were obtained. Section 4.0 summarizes the information found in the Title V permits that is the same as the "inputs to equations" data elements. A complete list of Title V permits reviewed is provided as items B-1 through B-197 in Section 5.0.

Table 3-2. Summary of Title V Permits Reviewed for each Subpart

Subpart	Permits Reviewed[1]	
	Number	States
C	10	AK, AR, CA, CO, IN, MO, NC, NY, RI, VA
E	2	FL, TX
F	3	NY, OH
G	9	GA, IA, OH, OK, TX, VA, WY
H	11	AZ, CO, FL, GA, ID, IN, ME, MI, MO, OH, OR
K	1	OH
L	4	AR, IL, NC
N	10	AR, GA, IL, IN, MI, MO, NY, OH, OK, WI
O	1	WV
P	10	CA, IN, TX
Q	10	AL, AR, CO, FL, IN, MI, NC, OH, UT, VA
R	3	IN, NY
S	10	AR, AZ, ID, IN, MO, OH, UT, VA, WI, WV
U	10	CA, GA, ID, LA, MN, NC, OH, TX, WI
V	10	AR, FL, GA, IA, ID, OH, OK, TX, UT, WY
W	2-24[2]	AK, AZ, CA, CO, FL, IA, IL, IN, LA, MI, MN, MO, MS, NC, NM, NY, OH, OK, TX, UT, VA, WI, WV, WY
X	8	IA, IL, OH, OK, TX
Y	13	AK, AR, CO, GA, IL, IN, MI, OK, TX, WI, WV, WY
Z	5	FL, ID, NC, WY
AA	15	AR, FL, GA, ID, IL, ME, MI, NC, NY, OH, OK, TX, VA, WI, WV
BB	1	IL
CC	3	WY
EE	4	OH, MS
GG	1	IL
II	12	AR, CO, FL, IA, IN, SD, VA, WA
TT	10	AR, FL, GA, ID, IN, ME, VA, WI

1 Title V permits that were not available online were not reviewed.
2 The number of permits reviewed varied for each of the "inputs to equations" data elements ranged from 2 to 24.

3.3 Federal Databases

The following six federal databases were reviewed for data identical to "inputs to equations" data elements:

- National Emissions Inventory (NEI) – Includes comprehensive estimates of air emissions of criteria and hazardous air pollutants from all emission sources and compiles information collected from states, the TRI program, acid rain program, and EPA regulatory programs;
- Clean Air Markets Division (CAMD) Acid Rain Program database – Includes data from various market-based regulatory programs designed to improve air quality, particularly the acid rain program;

- Emission and Generation Integrated Database (eGRID) – Includes information on environmental characteristics of electric power generation in the United States;
- Toxic Release Inventory (TRI) Program – Includes information on disposal and release of toxic chemicals from U.S. facilities and how facilities manage those chemicals through recycling, energy recovery, and treatment;
- Department of Energy (DOE)/Energy Information Administration (EIA) data – Includes information on the usage of fuel in each industry sector and by source; and
- Office of Enforcement and Compliance Assurance (OECA) Enforcement and Compliance History Online (ECHO) tool – Includes compliance and enforcement information for regulated facilities nationwide.

The information in these databases is published on a recurring basis. For NEI, data from 2008 were reviewed. For all other federal databases, data available in 2011 for reporting year 2010 were reviewed. Section 4.0 summarizes the information found in federal databases that is the same as the "inputs to equations" data elements. References for the federal databases listed above are provided as items C-1 through C-6 in Section 5.0.

3.4 State and Regional Databases

Online regional and state databases that publish data related to the industry sectors required to report "inputs to equations" data elements were also reviewed. Online databases were identified for three regions and 18 states that have considered adopting or have adopted mandatory GHG reporting programs. The following regional databases were reviewed:

- The Climate Registry (TCR) – A voluntary collaboration between states that provides information on GHG emissions and methods to calculate and verify emissions;
- Western Climate Initiative (WCI) – A cap and trade program with collaboration between Canadian provinces, Mexican states, and western U.S. states that includes information on GHG emissions; and
- Regional Greenhouse Gas Initiative (RGGI) – A market-based regulatory program to reduce GHGs cooperatively between the states of CT, DE, ME, MD, MA, NH, NY, RI, and VT.

Online databases published by the following states were reviewed: MA, CA, NJ, ME, IA, FL, HI, CT, CO, DE, MD, NC, NM, NV, OR, WA, WI, WV.

These data are published on a recurring basis. For all regional and state databases, data available in 2011 were reviewed. Section 4.0 summarizes the information found in state and regional databases that is the same as the "inputs to equations" data elements. References for the regional databases listed above are provided as items D-1 through D-3 in Section 5.0.

3.5 Journals

Trade and technical journals that publish data related to the industry sectors were also reviewed. Table 3-3 lists the trade journals associated with the industry subpart of interest that were identified. For each journal, the most current issue, samples of issues from 2011, and issues that provide an annual review or summary of information were reviewed. In general, information

provided in the journals is provided on a one-time basis. Section 4.0 summarizes the information found in trade and technical journals that is the same as the "inputs to equations" data elements. References for trade and technical journals that were reviewed and were determined to have applicable information are listed as items E-1 through E-3 in Section 5.0.

Table 3-3. Summary of Trade Journals Identified and Reviewed for Each Subpart

Subpart	Journal Name
C	Power Engineering Magazine
	Powergrid International
E	None Identified
F	Aluminum Today
	Light Metal Age
	Aluminum World
	Journal of Alloys and Compounds
G	None Identified
H	Cement and Concrete Composites
	World Cement
	Cement Americas
	Cement and Concrete Research
	Global Cement
K	Journal of Alloys and Compounds
	American Metal Market (USA)
L	None Identified
N	Glass and Ceramics, Glass Science and Technology
O	None Identified
P	Catalysis Today
Q	Iron and Steel Technology
	Foundry Management and Technology
	American Machinist
	Forging Magazine
	Advanced Materials and Processes
	Institute of Materials, Minerals, and Mining
R	None Identified
S	None Identified
U	None Identified
V	None Identified

W	Hydrocarbon Processing
	World Oil
	Touch Oil and Gas
	Oil and Gas Journal
X	Hydrocarbon Processing
	World Oil
	Touch Oil and Gas
	Oil and Gas Journal
Y	Hydrocarbon Processing
	Touch Oil and Gas
	World Oil
	Oil and Gas Journal
Z	None Identified
AA	TAPPI
	Pulp and Paper International
	Paper Age
	Pulp and Paper Week
	Paperboard Packaging
	Timberline
BB	None Identified
CC	None Identified
EE	None Identified
GG	None Identified
II	Water & Wastes Digest
	Journal of Air and Waste Management Association (JAWMA)
	Waste Management
	Waste & Recycling News
	Waste Age
	Water Science & Technology
	Water and Environmental Management
	American Water Works Association Journal
	Pumps & Systems
TT	None Identified

3.6 Other Internet Sources

For subpart W, information was also found in various Internet sources that contained relevant information on the oil and gas industry, but not in a database. The following websites were identified:

- The EPA's Natural Gas STAR Program - www.epa.gov/gasstar

- American Petroleum Institute: Industry Statistics - www.api.org/statistics
- DOI's Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) - www.gomr.boemre.gov
- DOT's Pipeline and Hazardous Materials Safety Administration: Data and Statistics - www.phmsa.dot.gov
- Energy Association of Pennsylvania - www.energypa.org
- Pennsylvania Public Utility Commission - www.puc.state.pa.us
- American Gas Association - www.cycla.com/opsiswc
- South Jersey Gas Company - www.southjerseygas.com

References for the websites presented above are listed as items F-1 through F-12 in Section 5.0.

3.7 Comments on the Call for Information and Deferral Notice

Public comments were submitted on the EPA's December 27, 2010 deferral proposal and call for information [75 FR 81338; 75 FR 81350]. Only one commenter, Sierra Club, provided references for "inputs to equations" data elements that were publicly available. The Sierra Club comments indicated that data were publicly available for some of the "inputs to equations" data elements in five of the subparts: C, H, Q, W, and Y. In each instance that a specific source was cited to demonstrate public availability or non-availability, the cited source was reviewed to confirm whether the source did provide information on the "inputs to equations" data elements, and to assess whether the data in the source were sufficient for assessing public availability. Section 4.0 summarizes the review of the sources cited by Sierra Club and Appendix C contains a detailed review of the sources referenced in the Sierra Club comment letter.

4.0 Summary of Results

Table 4-1 summarizes the number of publicly released data that are identical to the inputs to equations. Detailed analyses for all the subparts, including age of the data, whether the data were a one-time occurrence or on-going, the number of sources reporting the data, and the exact reference for the data source, are provided in Appendix B. In Appendix B, separate tables were developed for subpart C because sources subject to subpart C are often also reporters for other subparts, and the level of information publicly available for the subpart C "inputs to equations" data elements varies by the industry sector. For example, information publicly available for the refining industry (subject to subpart Y) is significantly different than information publicly available for the lime industry (subject to subpart S) due to differing sector-specific regulations and trade publications. For electric generators, Table B-1D summarizes the information required to be reported in the DOE/EIA forms and information that is made publicly available from DOE/EIA from the forms.

Appendix C contains the list of "inputs to equations" data elements cited by Sierra Club in their comment letter to the Call for Information Notice [EPA-HQ-OAR-2010-0964-0029 and EPA-HQ-OAR-2010-0929-0029] as being publicly available as well as the EPA's analysis of their public availability. Appendix C shows that 37 data elements were concurred to be publicly available for some reporters for a specific time period. Of the 37 data elements, nine of the data elements are constants used in equations, 24 of the data elements were evaluated in this memorandum (see Appendix B) to be publicly available on a recurring basis for a minority of

reporters or on a one-time basis, and four of the data elements had not been identified as being publicly available, but were determined to be available for a small number of sources based on the commenter reference cited.

As shown in Table 4-1, one data element in subpart W was determined to be publicly available on a recurring basis for a majority of sources. As a result, the EPA proceeded to Step 2 of the evaluation, the analysis of the competitive harm that would result from reporting of "inputs to equations" data elements, for all 27 subparts.

Table 4-1. Summary of Publicly Released Data Identical to Inputs to Equations

Subpart	# Sources[a] From 2011 Reports	# Inputs to Equations	# Data Elements Reported		
			Recurring Basis for a Majority of Reporters	Recurring Basis for a Minority of Reporters	One-Time Basis
C	1,985[b]	25	0	17	3
E	3	21	0	0	0
F	10	29	0	2	0
G	22	8	0	0	0
H	96	15	0	1	1
K	10	13	0	0	2
L	16	53	0	0	0
N	110	3	0	0	0
O	5	15	0	0	0
P	103	7	0	0	0
Q	128	93	0	0	4
R	13	10	0	0	5
S	73	9	0	0	0
U	18	6	0	0	0
V	36	21	0	0	3
W	1,549	90	1	7	27
X	64	21	0	1	0
Y	145	80	0	2	6
Z	13	4	0	0	0
AA	110	31	0	24	0
BB	1	3	0	0	0
CC	4	10	0	0	1
EE	7	2	0	0	0
GG	6	8	0	0	0
II	151	5	0	0	0
TT	173	3	0	0	0
Total			1	54	52

[a]Counts are based on RY2011 reports.

[b]Count is for facilities that are subject only to subpart C reporting. However, information in other columns is for counts in each industry sector. A total of 5,391, facilities reported under subpart C.

5.0 References

A-1. "Gilberton Power Company, John B Rich Memorial Power Station Unit CFB1, Frackville, Pennsylvania, Process Data." Gilberton Power Company. 40 CFR part 60 subpart D, Da, Db, Dc and 40 CFR part 63, subpart UUUUU. Docket ID: EPA-HQ-OAR-2009-0234-0643. February 16, 2011. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2009-0234-0643.

A-2. "Columbia Aluminum Corporation Multiple Metals and Semi-Volatile Organic Compounds Testing Paste Plant - Heaf Unit Stack, Goldendale, Washington, September 1, 1994." AmTest-Air Quality, Inc. 40 CFR part 63 subpart LL. Docket ID: EPA-HQ-OAR-2002-0032-0157. November 3, 1994. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2002-0032-0157.

A-3. "Columbia Falls Aluminum Company Emission Testing, Columbia Falls, Montana - December 9-16, 1996." AmTest-Air Quality, Inc. 40 CFR part 63 subpart LL. Docket ID: EPA-HQ-OAR-2002-0032-0223. January 24, 1997. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2002-0032-0223.

A-4. "Draft Final Report Emissions From Lime Manufacturing Eastern Ridge Lime Company (Volume 1 of 2) Report and Appendices A--B) Attachment 2 of 3. A-95-41 II-A-7." 40 CFR part 63 subpart AAAAA. Docket ID: EPA-HQ-OAR-2002-0052-0019. December, 1996. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2002-0052-0019.

A-5. "Emission Test Report, Method 5/POM and 13B Testing Vo. I, Kaiser Aluminum and Chemical Corporation." AmTest-Air Quality, Inc. 40 CFR part 63 subpart LL. Docket ID: EPA-HQ-OAR-2002-0032-0027. September 14, 1994. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2002-0032-0027.

A-6. "Emission Test Report, Method 5/POM and 13B Testing, Noranda Aluminum Inc., New Madrid, Missouri, September 14-20, 1994." AmTest-Air Quality, Inc. 40 CFR part 63 subpart LL. Docket ID: EPA-HQ-OAR-2002-0032-0161. January 10, 1995. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2002-0032-0161.

A-7. "Emission Test Report, Method 5/POM and 13B Testing, Noranda Aluminum, Inc. New Madrid, Missouri, September 14-20, 1994." AmTest-Air Quality, Inc. 40 CFR part 63 subpart LL. Docket ID: EPA-HQ-OAR-2002-0032-0159. January 10, 1995. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2002-0032-0159.

A-8. "Emissions Measurement Test Report Northwest Aluminum Company." Northwest Aluminum Company. 40 CFR part 63 subpart LL. Docket ID: EPA-HQ-OAR-2002-0032-0023. June, 1994. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2002-0032-0023.

A-9. "Essroc Cement Corporation Section 114 Responses and Correspondence." Essroc Cement Corporation. 40 CFR part 63 subpart LLL. Docket ID: EPA-HQ-OAR-2002-0051-1942. May 18, 2007. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2002-0051-1942.

A-10. "Gopher Resource LLC Stack Test Data." 40 CFR part 63 subpart X. Docket ID: EPA-HQ-OAR-2011-0344-0067. September 30, 2010. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2011-0344-0067.

A-11. "HOVENSA Coker Steam Vent Report." URS Corporation. 40 CFR part 60 subpart J. Docket ID: EPA-HQ-OAR-2007-0011-0272. September 8, 2008. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2007-0011-0272.

A-12. "ICR [Information Collection Request] - Carbide Industries." 40 CFR part 63 subpart YYYYYY. Docket ID: EPA-HQ-OAR-2008-0154-0014. July 21, 2006. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2008-0154-0014.

A-13. "ICR - CCMA (CC Metals and Alloys, LLC)." 40 CFR part 63 subpart YYYYYY. Docket ID: EPA-HQ-OAR-2008-0154-0015. October 6, 2006. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2008-0154-0015.

A-14. "Information Collection Request (ICR) - Elkem Metals, Pryor, OK." 40 CFR part 63 subpart YYYYYY. Docket ID: EPA-HQ-OAR-2008-0154-0016. January 9, 2007. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2008-0154-0016.

A-15. "Information Collection Request (ICR) - Globe Metallurgical, Beverly, OH." 40 CFR part 63 subpart YYYYYY. Docket ID: EPA-HQ-OAR-2008-0154-0018. September 27, 2006. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2008-0154-0018.

A-16. "Information Collection Request (ICR) - Globe Metallurgical, Selma, AL." 40 CFR part 63 subpart YYYYYY. Docket ID: EPA-HQ-OAR-2008-0154-0019. September 27, 2006. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2008-0154-0019.

A-17. "Information Collection Request (ICR) - Supplemental Information for Bear Metallurgical." 40 CFR part 63 subpart YYYYYY. Docket ID: EPA-HQ-OAR-2008-0154-0022. July 3, 2006. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2008-0154-0022.

A-18. "Information Collection Request (ICR) - Tennessee Alloys." 40 CFR part 63 subpart YYYYYY. Docket ID: EPA-HQ-OAR-2008-0154-0023. September 27, 2006. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2008-0154-0023.

A-19. "Information Collection Request (ICR) - West Virginia Alloy." 40 CFR part 63 subpart YYYYYY. Docket ID: EPA-HQ-OAR-2008-0154-0024. September 27, 2006. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2008-0154-0024.

A-20. "Information Collection Request (ICR) - Global Titanium." 40 CFR part 63 subpart YYYYYY. Docket ID: EPA-HQ-OAR-2008-0154-0017. September 22, 2006. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2008-0154-0017.

A-21. "Information Collection Request (ICR) Response - AGY, Aiken, SC, Part 1 of 3." 40 CFR part 63 subpart SSSSSS. Docket ID: EPA-HQ-OAR-2006-0360-0068. December 10, 2004. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2006-0360-0068.

A-22. "Information Collection Request (ICR) Response - AGY, Huntingdon, PA, Part 1 of 2." 40 CFR part 63 subpart SSSSSS. Docket ID: EPA-HQ-OAR-2006-0360-0069. December 10, 2004. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2006-0360-0069.

A-23. "Information Collection Request (ICR) Response - General Electric (GE) Consumer & Industrial, Logan, Ohio." 40 CFR part 63 subpart SSSSSS. Docket ID: EPA-HQ-OAR-2006-0360-0049. November 3, 2004. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2006-0360-0049.

A-24. "Information Collection Request (ICR) Response - Guardian Industries Corp, Corsicana, TX." 40 CFR part 63 subpart SSSSSS. Docket ID: EPA-HQ-OAR-2006-0360-0057. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2006-0360-0057.

A-25. "Information Collection Request (ICR) Response - Guardian Industries Corporation, Carleton, MI." 40 CFR part 63 subpart SSSSSS. Docket ID: EPA-HQ-OAR-2006-0360-0056. Available: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2006-0360-0056.

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Appendix A

List of “inputs to equations” data elements

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
A	98.3(d)(3)(v)	Facility operating data or process information used for the GHG emission calculations, for abbreviated emissions report option available for RY 2010 only.	N/A	932
C	98.36(b)(9)(iii)	Estimate of the heat input from each type of fuel listed in Table C-2 that was combusted in the unit during the report year	C-10	1985
C	98.36(c)(2)(ix)	The flue gases from two or more stationary fuel combustion units at a facility are combined together and discharged through a common stack or duct before exiting to the atmosphere and if CEMS are used to continuously monitor CO_2 mass emissions at the common stack or duct according to the Tier 4 Calculation Methodology, you may report the combined emissions from the units sharing the common stack or duct, in lieu of separately reporting the GHG emissions from the individual units. This monitoring and reporting alternative may also be used when process off-gases or a mixture of combustion products and process gases are combined together in a common stack or duct before exiting to the atmosphere. An estimate of the heat input from each type of fuel listed in Table C-2 combusted during the reporting year.	C-10	1985
C	98.36(e)(2)(i)	Total quantity of each type of fuel combusted in each unit or group of aggregated units (as applicable) during the reporting year, in short tons for solid fuels, gallons for liquid fuels and standard cubic feet for gaseous fuels, or, if applicable, therms or mmBtu for natural gas.	C-1	1985
C	98.36(e)(2)(i)	Total quantity of each type of fuel combusted in each unit or group of aggregated units (as applicable) during the reporting year, in short tons for solid fuels, gallons for liquid fuels and standard cubic feet for gaseous fuels, or, if applicable, therms or mmBtu for natural gas.	C-1a	1985
C	98.36(e)(2)(i)	Total quantity of each type of fuel combusted in each unit or group of aggregated units (as applicable) during the reporting year, in short tons for solid fuels, gallons for liquid fuels and standard cubic feet for gaseous fuels, or, if applicable, therms or mmBtu for natural gas.	C-1b	1985
C	98.36(e)(2)(i)	Total quantity of each type of fuel combusted in each unit or group of aggregated units (as applicable) during the reporting year, in short tons for solid fuels, gallons for liquid fuels and standard cubic feet for gaseous fuels, or, if applicable, therms or mmBtu for natural gas.	C-8	1985
C	98.36(e)(2)(ii)(A)	For Tier 2: Total quantity of each type of fuel combusted in the unit or group of aggregated units (as applicable) during each month of the reporting year. Express the quantity of each fuel combusted during the measurement period in short tons for solid fuels, gallons for liquid fuels, and scf for gaseous fuels.	C-2b	1985
C	98.36(e)(2)(ii)(C)	High heat values used in the CO_2 emissions calculations for each fuel combusted during the reporting year. Report a HHV value for each calendar month in which HHV determination is required. If multiple values are obtained in a given month, report the arithmetic average value for the month.	C-2b	1985
C	98.36(e)(2)(ii)(D)	If Eq. C-2c is used: Total quantity (i.e., pounds) of steam produced from MSW or solid fuel combustion during each month of the reporting year,	C-2c	1985
C	98.36(e)(2)(ii)(D)	If Eq. C-2c is used: Ratio of the maximum rate heat input capacity to the design rated steam output capacity of the unit	C-2c	1985
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-3	1985
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-4	1985
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-5	1985
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-8	1985
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-8a	1985
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-8b	1985
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-13	1985
C	98.36(e)(2)(iv)(C)	The carbon content used in the emission calculations (including both valid and substitute data values). For each calendar month of the reporting year in which carbon content and, if applicable, molecular weight determination is required, report a value of each parameter. If multiple values of a parameter are obtained in a given month, report the arithmetic average value for the month. (CC)	C-3	1985
C	98.36(e)(2)(iv)(C)	The carbon content used in the emission calculations (including both valid and substitute data values). For each calendar month of the reporting year in which carbon content and, if applicable, molecular weight determination is required, report a value of each parameter. If multiple values of a parameter are obtained in a given month, report the arithmetic average value for the month. (CC)	C-4	1985

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
C	98.36(e)(2)(iv)(C)	The carbon content used in the emission calculations (including both valid and substitute data values). For each calendar month of the reporting year in which carbon content and, if applicable, molecular weight determination is required, report a value of each parameter. If multiple values of a parameter are obtained in a given month, report the arithmetic average value for the month. (CC)	C-5	1985
C	98.36(e)(2)(iv)(C)	Gas molecular weight values used in the emission calculations (including both valid and substitute data values). For each calendar month of the reporting year in which carbon content and, if applicable, molecular weight determination is required, report a value of each parameter. If multiple values of a parameter are obtained in a given month, report the arithmetic average value for the month.	C-5	1985
C	98.36(e)(2)(iv)(F)	The annual average HHV, when measured HHV data, rather than a default HHV from Table C-1 of this subpart, are used to calculate CH_4 and N_2O emissions for a Tier 3 unit, in accordance with §98.33(c)(1).	C-8	1985
C	98.36(e)(2)(ix)(D)	For units that combust both fossil fuel and biomass, when biogenic CO_2 is determined according to §98.33(e)(2), report the carbon-based F-factor used in Equation C-13 of this subpart	C-13	1985
C	98.36(e)(2)(ix)(E)	For units that combust both fossil fuel and biomass, when biogenic CO_2 is determined according to §98.33(e)(2), report the annual average HHV value used in Equation C-13 of this subpart	C-13	1985
C	98.36(e)(2)(ix)(F)	For units that combust both fossil fuel and biomass, when biogenic CO_2 is determined according to §98.33(e)(2), report the total quantity of fossil fuel combusted during the reporting year.	C-13	1985
E	98.56(b)	Total annual adipic acid production from unit "z" (Pz)	E-2	3
E	98.56(b)	Total annual adipic acid production from unit "z" (Pz)	E-3a	3
E	98.56(b)	Total annual adipic acid production from unit "z" (Pz)	E-3b	3
E	98.56(b)	Total annual adipic acid production from unit "z" (Pz)	E-3c	3
E	98.56(b)	Total annual adipic acid production from unit "z" (Pz)	E-3d	3
E	98.56(c)	Annual adipic acid production during which N_2O abatement technology (located after the test point) is operating (Pz,N)	E-2	3
E	98.56(g)	Abatement technology destruction efficiency for each abatement technology (DF)	E-3a	3
E	98.56(g)	Abatement technology destruction efficiency for each abatement technology (DFN)	E-3b	3
E	98.56(g)	Abatement technology destruction efficiency for each abatement technology (DFN)	E-3c	3
E	98.56(h)	Abatement utilization factor for each abatement technology (AF)	E-3a	3
E	98.56(h)	Abatement utilization factor for each abatement technology (AFN)	E-3b	3
E	98.56(h)	Abatement utilization factor for each abatement technology (AFN)	E-3c	3
E	98.56(j)(1)	Emission factor for each unit (EFN_2Oz)	E-3a	3
E	98.56(j)(1)	Emission factor for each unit (EFN_2O)	E-3b	3
E	98.56(j)(1)	Emission factor for each unit (EFN_2O)	E-3c	3
E	98.56(j)(1)	Emission factor for each unit (EFN_2O)	E-3d	3
E	98.56(j)(3)	Production rate per test run during performance test for each unit (P)	E-1	3
E	98.56(j)(4)	N_2O concentration per test run during performance test for each unit (CN_2O)	E-1	3
E	98.56(j)(5)	Volumetric flow rate per test run during performance test for each unit (Q)	E-1	3
E	98.56(l)	Fraction control factor for each abatement technology (percent of total emissions from the production unit that are sent to the abatement technology) if equation E-3c is used. (FC_N)	E-3c	3
E	98.56(j)(6)	Number of test runs for each unit (n)	E-1	3
F	98.66(a)	Annual aluminum production (MP)	F-5	10
F	98.66(a)	Annual aluminum production (MP)	F-6	10
F	98.66(c)(2)	Anode effect minutes per cell-day (AEM)	F-2	10
F	98.66(c)(2)	Anode effect overvoltage factor (EFCF4)	F-3	10
F	98.66(c)(2)	Anode effect frequency	Used to calculate the slope coefficients used as an input in Eq. F-2	10
F	98.66(c)(2)	Potline overvoltage	Used to calculate the overvoltage factor used as an input in Eq. F-3	10
F	98.66(c)(2)	Anode effect duration	Used to calculate the slope coefficients used as an input in Eq. F-2	10
F	98.66(c)(2)	Current efficiency	Used to calculate the overvoltage factor used as an input in Eq. F-3	10

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
F	98.66(c)(3)	Smelter-specific slope coefficients (SCF4)	F-2	10
F	98.66(c)(3)	Overvoltage emission factors (EFCF4)	F-3	10
F	98.66(e)(1)	Annual anode consumption (No CEMS) (NAC)	F-5	10
F	98.66(f)(1)	Annual paste consumption (No CEMS) (PC)	F-6	10
F	98.66(g)	Sulfur content in baked anode (percent weight) (Sa)	F-5	10
F	98.66(g)	Ash content in baked anode (percent weight) (Asha)	F-5	10
F	98.66(g)	Binder content of paste (percent weight) (BC)	F-6	10
F	98.66(g)	Sulfur content of pitch (percent weight) (Sp)	F-6	10
F	98.66(g)	Ash content of pitch (percent weight). (Ashp)	F-6	10
F	98.66(g)	Hydrogen content of pitch (percent weight) (Hp)	F-6	10
F	98.66(g)	Sulfur content in calcined coke (percent weight) (Sc)	F-6	10
F	98.66(g)	Ash content in calcined coke (percent weight) (Ashc)	F-6	10
F	98.66(g)	Carbon in skimmed dust from Sderberg cells (metric ton C/metric ton Al) (CD)	F-6	10
F	98.66(g)	Initial weight of green anodes (metric tons) (GA)	F-7	10
F	98.66(g)	Annual hydrogen content in green anodes (metric tons) (Hw)	F-7	10
F	98.66(g)	Annual baked anode production (metric tons) (BA)	F-7	10
F	98.66(g)	Annual waste tar collected (metric tons) (WT)	F-7	10
F	98.66(g)	Annual packing coke consumption (metric tons/metric ton baked anode) (PCC)	F-8	10
F	98.66(g)	Annual baked anode production (metric tons) (BA)	F-8	10
F	98.66(g)	Sulfur content in packing coke (percent weight) (SPc)	F-8	10
F	98.66(g)	Ash content in packing coke (percent weight) (Ashpc)	F-8	10
G	98.76(b)(2)	Monthly quantity of each type of feedstock consumed for ammonia manufacturing - Gaseous Feedstock	G-1	22
G	98.76(b)(2)	Monthly quantity of each type of feedstock consumed for ammonia manufacturing - Liquid Feedstock	G-2	22
G	98.76(b)(2)	Monthly quantity of each type of feedstock consumed for ammonia manufacturing - Solid Feedstock	G-3	22
G	98.76(b)(7)	Carbon content of the gaseous feedstock	G-1	22
G	98.76(b)(8)	Molecular weight of the gaseous feedstock	G-1	22
G	98.76(b)(9)	Molar volume conversion factor of the gaseous feedstock	G-1	22
G	98.76(b)(10)	Carbon content of the liquid feedstock, for month n	G-2	22
G	98.76(b)(11)	Carbon content of the solid feedstock, for month n	G-3	22
H	98.86(b)(2)	Monthly clinker production for each kiln (No CEMS)	H-2	96
H	98.86(b)(5)	Quarterly quantity of CKD (cement kiln dust) not recycled to the kiln	H-2	96
H	98.86(b)(6)	Monthly fraction of total CaO in clinker	H-3	96
H	98.86(b)(6)	Monthly fraction of total MgO in clinker	H-3	96
H	98.86(b)(6)	Monthly fraction of non-calcined CaO in clinker	H-3	96
H	98.86(b)(6)	Monthly fraction of non-calcined MgO in clinker	H-3	96
H	98.86(b)(8)	Quarterly fraction of total CaO in CKD not recycled to the kiln	H-4	96
H	98.86(b)(8)	Quarterly fraction of total MgO in CKD not recycled to the kiln	H-4	96
H	98.86(b)(8)	Quarterly fraction of non-calcined CaO in CKD not recycled to the kiln	H-4	96
H	98.86(b)(8)	Quarterly fraction of non-calcined MgO in CKD not recycled to the kiln	H-4	96
H	98.86(b)(10)	Monthly kiln-specific clinker CO_2 emission factors for each kiln	H-2	96
H	98.86(b)(11)	Quarterly kiln-specific CKD CO_2 emission factors for each kiln	H-2	96
H	98.86(b)(12)	Annual organic carbon content of each raw kiln feed or annual organic carbon content of each raw material	H-5	96
H	98.86(b)(13)	Annual consumption of each raw kiln feed or annual consumption of each raw material	H-5	96
H	98.86(b)(15)	Monthly kiln-specific clinker factors (if used) for each kiln	Used to calculate clinker production by facilities using the method in 40 CFR 98.84(d) (i.e., kiln-specific clinker-to-feed factors)	96

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
K	98.116(b)	Annual production by product from each EAF (electric arc furnace) (tons) (used as input to Eq K-1): Mproductk= Annual mass of alloy product k tapped from EAF (tons).	K-1	10
K	98.116(b)	Annual production by product from each EAF (tons) (used as input to Eq K-3).	K-3	10
K	98.116(e)(4)	Annual material quantity for each material included for the calculation of annual process CO_2 emissions (No CEMS): Mreducing agenti= Annual mass of reducing agent i fed, charged, or otherwise introduced into the EAF (tons).	K-1	10
K	98.116(e)(4)	Annual material quantity for each material included for the calculation of annual process CO_2 emissions (No CEMS): Melectrodem= Annual mass of carbon electrode m consumed in the EAF (tons).	K-1	10
K	98.116(e)(4)	Annual material quantity for each material included for the calculation of annual process CO_2 emissions (No CEMS): Moreh= Annual mass of ore h charged to the EAF (tons).	K-1	10
K	98.116(e)(4)	Annual material quantity for each material included for the calculation of annual process CO_2 emissions (No CEMS): Mfluxj= Annual mass of flux material j fed, charged, or otherwise introduced into the EAF to facilitate slag formation (tons).	K-1	10
K	98.116(e)(4)	Annual material quantity for each material included for the calculation of annual process CO_2 emissions (No CEMS): Mnon-product outgoingl= Annual mass of non-product outgoing material l removed from EAF (tons).	K-1	10
K	98.116(e)(5)	Annual average of the carbon content determinations for each material included for the calculation of annual process CO_2 emissions (No CEMS): Creducing agenti= Carbon content in reducing agent i (percent by weight, expressed as a decimal fraction).	K-1	10
K	98.116(e)(5)	Annual average of the carbon content determinations for each material included for the calculation of annual process CO_2 emissions (No CEMS): Celectrodem= Carbon content of the carbon electrode m (percent by weight, expressed as a decimal fraction).	K-1	10
K	98.116(e)(5)	Annual average of the carbon content determinations for each material included for the calculation of annual process CO_2 emissions (No CEMS): Coreh= Carbon content in ore h (percent by weight, expressed as a decimal fraction).	K-1	10
K	98.116(e)(5)	Annual average of the carbon content determinations for each material included for the calculation of annual process CO_2 emissions (No CEMS): Cfluxj= Carbon content in flux material j (percent by weight, expressed as a decimal fraction).	K-1	10
K	98.116(e)(5)	Annual average of the carbon content determinations for each material included for the calculation of annual process CO_2 emissions (No CEMS): Cproductk= Carbon content in alloy product k. (percent by weight, expressed as a decimal fraction).	K-1	10
K	98.116(e)(5)	Annual average of the carbon content determinations for each material included for the calculation of annual process CO_2 emissions (No CEMS): Cnon-product outgoingl= Carbon content in non-product outgoing material l (percent by weight, expressed as a decimal fraction).	K-1	10
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations. eSA= Absolute error of the sum, expressed as one half of a 95 percent confidence interval.	L-1	16
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations. ea= Relative error of a, expressed as one half of a 95 percent confidence interval.	L-1	16
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations. eb= Relative error of b, expressed as one half of a 95 percent confidence interval.	L-1	16
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations.ec= Relative error of c, expressed as one half of a 95 percent confidence interval.	L-1	16
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations. eSR= Relative error of the sum, expressed as one half of a 95 percent confidence interval.	L-2	16
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations. eSA= Absolute error of the sum, expressed as one half of a 95 percent confidence interval.	L-2	16
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations. a+b+c = Sum of the variables measured.	L-2	16
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations. ea= Relative error of a, expressed as one half of a 95 percent confidence interval.	L-3	16
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations. eb= Relative error of b, expressed as one half of a 95 percent confidence interval.	L-3	16

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations. ec= Relative error of c, expressed as one half of a 95 percent confidence interval.	L-3	16
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations. ePR= Relative error of the product, expressed as one half of a 95 percent confidence interval.	L-4	16
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations. ePA= Absolute error of the product, expressed as one half of a 95 percent confidence interval.	L-4	16
L	98.126(b)(1)	The data (including quantities and their accuracies and precisions) used in these calculations. a*b*c = Product of the variables measured.	L-4	16
L	98.126(b)(2)	The balanced chemical equation that describes the reaction used to manufacture the fluorinated GHG product and each fluorinated GHG transformation product.	-	16
L	98.126(b)(6)	The mass of each fluorine-containing reactant that is fed into the process. (Rd)	L-6	16
L	98.126(b)(8)(i)	The mass of each fluorine-containing product that is removed from the process and fed into the destruction device (metric tons). (Pj)	L-7	16
L	98.126(b)(8)(ii)	The mass of each fluorine-containing by-product that is removed from the process and fed into the destruction device (metric tons). (Bkj)	L-7	16
L	98.126(b)(8)(iii)	The mass of each fluorine-containing reactant that is removed from the process and fed into the destruction device (metric tons). (Rdj)	L-7	16
L	98.126(b)(8)(iv)	The mass of each fluorine-containing by-product that is removed from the process and recaptured (metric tons). (Bkl)	L-7	16
L	98.126(b)(8)(v)	The demonstrated destruction efficiency of the destruction device for each fluorinated GHG fed into the device from the process in greater than trace concentrations (fraction). (DEFGHGf= Destruction efficiency of the device that has been demonstrated for fluorinated GHG f in stream j (fraction).)	L-8	16
L	98.126(b)(9)(i)	The mass of fluorine in each stream that is fed into the destruction device (metric tons). (cTFj)	L-17	16
L	98.126(b)(9)(ii)	The mass of fluorine that is recaptured (metric tons). (cTFl)	L-17	16
L	98.126(b)(9)(iii)	The weighted average destruction efficiency of the destruction device calculated for each stream under §98.123(b)(16). (Deavgj)	L-17	16
L	98.126(b)(10)	The fraction of the mass emitted that consists of each fluorine-containing reactant. (ERp-FGHGf)	L-5	16
L	98.126(b)(10)	The fraction of the mass emitted that consists of each fluorine-containing reactant (FERd)	L-11	16
L	98.126(b)(10)	The fraction of the mass emitted that consists of each fluorine-containing reactant. (FERd)	L-12	16
L	98.126(b)(10)	The fraction of the mass emitted that consists of each fluorine-containing reactant (FERd)	L-13	16
L	98.126(b)(11)	The fraction of the mass emitted that consists of the fluorine-containing product. (EPp-FGHGf)	L-5	16
L	98.126(b)(11)	The fraction of the mass emitted that consists of the fluorine-containing product (FEP)	L-11	16
L	98.126(b)(11)	The fraction of the mass emitted that consists of the fluorine-containing product. (FEBk)	L-12	16
L	98.126(b)(11)	The fraction of the mass emitted that consists of the fluorine-containing product. (FEP)	L-13	16
L	98.126(b)(12)	The fraction of the mass emitted that consists of each fluorine-containing by-product (EBp-FGHGf)	L-5	16
L	98.126(b)(12)	The fraction of the mass emitted that consists of each fluorine-containing by-product (FEBk)	L-11	16
L	98.126(b)(12)	The fraction of the mass emitted that consists of each fluorine-containing by-product. (FEBk)	L-12	16
L	98.126(b)(12)	The fraction of the mass emitted that consists of each fluorine-containing by-product. (FEBk)	L-13	16
L	98.126(c)(1)	The quantity of the process activity used to estimate emissions (e.g., tons of product produced or tons of reactant consumed). (ActivityEmissionTest)	L-20	16
L	98.126(c)(1)	The quantity of the process activity used to estimate emissions (e.g., tons of product produced or tons of reactant consumed). (ActivityC)	L-21	16
L	98.126(c)(1)	The quantity of the process activity used to estimate emissions (e.g., tons of product produced or tons of reactant consumed). (ActivityC)	L-22	16
L	98.126(c)(2)	The site-specific, process-vent-specific emission factor(s) or emission calculation factor for each process vent (EFPV)	L-20	16
L	98.126(c)(2)	The site-specific, process-vent-specific emission factor(s) or emission calculation factor for each process vent (EFPV–C)	L-21	16
L	98.126(c)(2)	The site-specific, process-vent-specific emission factor(s) or emission calculation factor for each process vent (EFPV–U)	L-22	16

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
L	98.126(c)(2)	The site-specific, process-vent-specific emission factor(s) or emission calculation factor for each process vent (EFPV)	L-23	16
L	98.126(c)(2)	The site-specific, process-vent-specific emission factor(s) or emission calculation factor for each process vent (ECFPV)	L-25	16
L	98.126(c)(2)	The site-specific, process-vent-specific emission factor(s) or emission calculation factor for each process vent (ECFPV)	L-26	16
L	98.126(c)(2)	The site-specific, process-vent-specific emission factor(s) or emission calculation factor for each process vent (ECFPV)	L-27	16
L	98.126(d)	Where missing data have been estimated pursuant to §98.125 report, estimate of the missing data	Varies	16
L	98.126(f)(1)	Destruction efficiency (DE) of each destruction device for each fluorinated GHG whose destruction the facility reflects in §98.123, in accordance with §98.124(g)(1)(i) through (iv). (DEavgj)	L-17	16
L	98.126(f)(1)	Destruction efficiency (DE) of each destruction device for each fluorinated GHG whose destruction the facility reflects in §98.123, in accordance with §98.124(g)(1)(i) through (iv). (DEFGHGf)	L-18	16
L	98.126(f)(1)	Destruction efficiency (DE) of each destruction device for each fluorinated GHG whose destruction the facility reflects in §98.123, in accordance with §98.124(g)(1)(i) through (iv). (DE)	L-22	16
L	98.126(f)(1)	Destruction efficiency (DE) of each destruction device for each fluorinated GHG whose destruction the facility reflects in §98.123, in accordance with §98.124(g)(1)(i) through (iv). (DE)	L-27	16
L	98.126(f)(1)	Destruction efficiency (DE) of each destruction device for each fluorinated GHG whose destruction the facility reflects in §98.123, in accordance with §98.124(g)(1)(i) through (iv) (DE)	L-31	16
L	98.126(g)(1)	The mass of the fluorinated GHG fed into the destruction device. (RE_D)	L-31	16
L	98.126(h)(2)	If applicable, the heel factor calculated for each container size and type. (hfj)	L-34	16
N	98.146(b)(2)	Annual quantity of carbonate based-raw material charged to each continuous glass melting furnace (No CEMS)	N-1	110
N	98.146(b)(4)	Carbonate-based mineral mass fraction of carbonate-based raw material charged to a furnace	N-1	110
N	98.146(b)(6)	Fraction of calcination for carbonate-based raw material	N-1	110
O	98.156(a)(2)	Loss Factor used to account for the loss of HCFC– 22 upstream of the measurement (LF used in equation O-3)	O-3	5
O	98.156(a)(7)	Annual mass of the HFC-23 generated (G_{23} in Eq. O-4)	O-4	5
O	98.156(a)(8)	Annual mass of any HFC-23 sent off site for sale (S_{23} in Eq. O-4)	O-4	5
O	98.156(a)(9)	Annual mass of any HFC-23 sent off site for destruction (OD_{23} usedin Eq. O-4)	O-4	5
O	98.156(a)(10)	Mass of HFC-23 in storage at the beginning of the year (used to calculate I_{23}, which is used in Eq. O-4)	O-4	5
O	98.156(a)(10)	Mass of HFC-23 in storage at the end of the year (used to calculate I_{23}, which is used in Eq. O-4)	O-4	5
O	98.156(b)(1)	Annual mass of HFC-23 fed into the destruction device (FD used in Eq. O-8 and O-9)	O-8	5
O	98.156(b)(1)	Annual mass of HFC-23 fed into the destruction device (FD used in Eq. O-8 and O-9)	O-9	5
O	98.156(b)(2)	Annual mass of HFC-23 destroyed (D23 used in Eq. O-8)	O-8	5
O	98.156(d)(1)	If the HFC-23 concentration measured pursuant to §98.154(l) is greater than that measured during the performance test that is the basis for the destruction efficiency (DE), report flow rate of HFC-23 being fed into the destruction device in kg/hr.	No Equation - Used to calculate Destruction Efficiency	5
O	98.156(d)(2)	If the HFC-23 concentration measured pursuant to §98.154(l) is greater than that measured during the performance test that is the basis for the destruction efficiency (DE), report concentration (mass fraction) of HFC-23 at the outlet of the destruction device.	No Equation - Used to calculate Destruction Efficiency	5
O	98.156(d)(3)	If the HFC-23 concentration measured pursuant to §98.154(l) is greater than that measured during the performance test that is the basis for the destruction efficiency (DE), report flow rate at the outlet of the destruction device in kg/hr.	No Equation - Used to calculate Destruction Efficiency	5
O	98.156(d)(4)	If the HFC-23 concentration measured pursuant to §98.154(l) is greater than that measured during the performance test that is the basis for the destruction efficiency (DE), report emission rate (in kg/hour) calculated from the paragraphs (d)(2) and (d)(3) of this section.	No Equation - Used to calculate Destruction Efficiency	5
O	98.156(d)(5)	If the HFC-23 concentration measured pursuant to §98.154(l) is greater than that measured during the performance test that is the basis for the destruction efficiency (DE), report the destruction efficiency (DE) calculated from paragraphs (d)(1) and (d)(4) of this section.	O-9	5
O	98.156(e)(1)	(One time report) Destruction efficiency (DE) (by March 31, 2011 or within 60 days of commencing HFC-23 destruction).	O-9	5
P	98.166(b)(2)	Monthly consumption of each fuel and feedstock by type used for hydrogen production (No CEMS): gaseous	P-1	103

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
P	98.166(b)(2)	Monthly consumption of each fuel and feedstock by type used for hydrogen production (No CEMS) (Fdstkn): liquid	P-2	103
P	98.166(b)(2)	Monthly consumption of each fuel and feedstock by type used for hydrogen production (No CEMS) (Fdstkn): solid	P-3	103
P	98.166(b)(5)	Monthly analyses of carbon content for each fuel and feedstock used in hydrogen production: Gaseous	P-1	103
P	98.166(b)(5)	Monthly analyses of carbon content for each fuel and feedstock used in hydrogen production: Liquid	P-2	103
P	98.166(b)(5)	Monthly analyses of carbon content for each fuel and feedstock used in hydrogen production: Solid	P-3	103
P	98.166(b)(6)	Monthly analyses of the molecular weight of gaseous fuels and feedstocks	P-1	103
Q	98.176(b)	Annual quantity taconite pellets produced (No CEMS)	Q-1	128
Q	98.176(b)	Annual quantity coke produced (No CEMS)	Q-2	128
Q	98.176(b)	Annual quantity sinter produced (No CEMS)	Q-4	128
Q	98.176(b)	Annual quantity iron produced (No CEMS)	Q-2	128
Q	98.176(b)	Annual quantity iron produced (No CEMS)	Q-7	128
Q	98.176(b)	Annual quantity raw steel produced (No CEMS)	Q-2	128
Q	98.176(b)	Annual quantity raw steel produced (No CEMS)	Q-5	128
Q	98.176(b)	Annual quantity raw steel produced (No CEMS)	Q-6	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS) - solid fuel combusted (Csf)	Q-1	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS) -gaseous fuel combusted (C_{gf})	Q-1	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- liquid fuel combusted (C_{lf})	Q-1	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- greenball pellets produced (Co)	Q-1	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- Iron (C_{iron})	Q-2	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- Scrap (C_{scrap})	Q-2	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- Flux (C_{flux})	Q-2	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- Carbonaceous material (C_{carbon})	Q-2	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- Coal charged to coke battery (C_{coal})	Q-3	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- Gaseous fuel combusted in the sinter process (C_{gf})	Q-4	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS) - sinter feed (C_{Feed})	Q-4	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- Iron (C_{iron}) used in EAF	Q-5	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- Scrap (C_{scrap}) used in EAF	Q-5	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- Flux (C_{flux}) used in EAF	Q-5	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- Carbonaceous material (C_{carbon}) used in EAF	Q-5	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- Electrode consumed in EAF ($C_{electrode}$)	Q-5	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS) - molton steel before decarburization ($C_{steelout}$) in EAF	Q-6	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS) - Gaseous fuel combusted in the direct reduction furnace (F_g)	Q-7	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS) - iron ore or iron ore pellets fed into the direct reduction furnace (C_{ore})	Q-7	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS)- Carbonaceous material (C_{carbon}) used in the direct reduction furnace	Q-7	128
Q	98.176(e)(1)	Carbon content of each process input used to determine CO_2 emissions (No CEMS) - Other materials charged to the direct reduction furnace (C_{other})	Q-7	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Fired pellets produced (Cp)	Q-1	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - air pollution control residue collected (Cr)	Q-1	128

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Steel produced (C_{steel})	Q-2	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Slag produced (C_{slag})	Q-2	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Air pollution control residue collected (C_R)	Q-2	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Coke produced by coke battery (C_{coke})	Q-3	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Air pollution control residue collected from coke battery (C_R)	Q-3	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - sinter feed (C_{Feed})	Q-4	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Air pollution control residue collected from sinter process (C_R)	Q-4	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Steel produced (C_{steel}) in EAF	Q-5	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Slag produced (C_{slag}) in EAF	Q-5	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Air pollution control residue collected (C_R) for EAF	Q-5	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - molton steel after decarburization ($C_{steelout}$) in EAF	Q-6	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Air pollution control residue collected (C_R) for EAF	Q-6	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Iron produced from direct reduction furnace (C_{iron})	Q-7	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Non-metallic materials produced from direct reduction furnace (C_{NM})	Q-7	128
Q	98.176(e)(1)	Carbon content of each process output used to determine CO_2 emissions (No CEMS) - Air pollution control residue collected (C_R) for direct reduction furnace	Q-7	128
Q	98.176(e)(3)	Annual volume of each type of gaseous fuel used to determine CO_2 emissions (reported separately for each type in standard cubic feet) (No CEMS) - Taconite Indurating Furnace	Q-1	128
Q	98.176(e)(3)	Annual volume of each type of gaseous fuel used to determine CO_2 emissions (reported separately for each type in standard cubic feet) (No CEMS) - Sinter process (Fg)	Q-4	128
Q	98.176(e)(3)	Annual volume of each type of gaseous fuel used to determine CO_2 emissions (reported separately for each type in standard cubic feet) (No CEMS) - direct reduction furnaces (Fg)	Q-7	128
Q	98.176(e)(3)	Annual volume of each type of liquid fuel used to determine CO_2 emissions (reported separately for each type in gallons) (No CEMS)	Q-1	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of greenball (taconite) pellets fed into the furnace (O)	Q-1	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of solid fuel combusted (Fs)	Q-1	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of molton iron charged to furnace (Iron)	Q-2	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of scrap charged to the furnace (Scrap)	Q-2	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of flux charged to the furnace (Flux)	Q-2	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of carbon (e.g., coal, coke) charged to furnace (Carbon)	Q-2	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Coal charged to battery (Coal)	Q-3	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of sinter feed material (Feed)	Q-4	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of direct reduced iron charged to the EAF (Iron)	Q-5	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of Scrap charged to the EAF(Scrap)	Q-5	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of flux charged to the EAF(Flux)	Q-5	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of carbon electrode consumed in the EAF(Electrode)	Q-5	128

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of carbonaceous (coal or coke) material charged to the EAF(Carbon)	Q-5	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of steel charged to the decarburization vessel (Steel)	Q-6	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of iron ore or iron ore pellets charged to the direct reduction furnace (Ore)	Q-7	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of carbonaceous (coal or coke) material charged to the direct reduction furnace (Carbon)	Q-7	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of other material charged to the direct reduction furnace (Other)	Q-7	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process output used to determine CO_2 emissions (No CEMS) - Annual mass of air pollution control residue (R).	Q-1	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process output used to determine CO_2 emissions (No CEMS) - Annual mass of fired pellets produced (P)	Q-1	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process output used to determine CO_2 emissions (No CEMS) - Annual mass of steel produced (Steel)	Q-2	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process output used to determine CO_2 emissions (No CEMS) - Annual mass of slag produced (Slag)	Q-2	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process output used to determine CO_2 emissions (No CEMS) - Annual mass of air pollution control residue collected (Residue)	Q-2	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process output used to determine CO_2 emissions (No CEMS) - Annual mass of coke produced (Coke)	Q-3	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process output used to determine CO_2 emissions (No CEMS) - Annual mass of air pollution control residue collected from battery (R)	Q-3	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of sinter Produced (Sinter)	Q-4	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process output used to determine CO_2 emissions (No CEMS) - Annual mass of air pollution control residue collected from sinter process (R)	Q-4	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO2 emissions (No CEMS)- Annual mass of steel produced (Steel) in EAF	Q-5	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process output used to determine CO_2 emissions (No CEMS) - Annual mass of slag produced (Slag) in EAF	Q-5	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process output used to determine CO_2 emissions (No CEMS) - Annual mass of air pollution control residue collected (Residue) from EAF	Q-5	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process output used to determine CO_2 emissions (No CEMS) - Annual mass of air pollution control residue collected (Residue) from the decarburization vessel	Q-6	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of iron produced (Iron) in direct reduction furnace	Q-7	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process input used to determine CO_2 emissions (No CEMS)- Annual mass of non-metallic materials produced (NM) in direct reduction furnace	Q-7	128
Q	98.176(e)(3)	Annual mass (in metric tons) of each other process output used to determine CO_2 emissions (No CEMS) - Annual mass of air pollution control residue collected (Residue) from the direct reduction furnace	Q-7	128
Q	98.176(e)(4)	Molecular weight of gaseous fuels (No CEMS) - Taconite Indurating Furnace	Q-1	128
Q	98.176(e)(4)	Molecular weight of gaseous fuels (No CEMS) - Sinter Process	Q-4	128
Q	98.176(e)(4)	Molecular weight of gaseous fuels (No CEMS) - Direct Reduction Furnace	Q-7	128
Q	98.176(f)(1)	Measured average hourly CO_2 emission rate during the test (No CEMS)	No Equation - Used as input to method described in 98.173(b)(iii).	128
Q	98.176(f)(2)	Average hourly feed rate during the test (No CEMS)	No Equation - Used as input in calc. method described in 98.173(b)(iii).	128
Q	98.176(f)(2)	Average hourly production rate during the test (No CEMS)	No Equation - Used as input in calc. method described in	128

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
			98.173(b)(iii).	
Q	98.176(f)(3)	Site-specific emission factor (No CEMS)	No Equation - Used as input in calc. method described in 98.173(b)(iv).	128
Q	98.176(f)(4)	Annual feed rate used to estimate annual CO_2 emissions (No CEMS)	No Equation - Used as input in calc. method described in 98.173(b)(iv).	128
Q	98.176(f)(4)	Annual production rate used to estimate annual CO_2 emissions (No CEMS)	No Equation - Used as input in calc. method described in 98.173(b)(iv).	128
Q	98.176(g)	The annual amount of coal charged to the coke ovens (in metric tons).	No Equation - Used as input in calc. method described in 98.173(c).	128
R	98.186(b)(6)	Annual material quantity used for the calculation of annual process CO_2 emissions (No CEMS) (Ore = Annual mass of lead ore charged to the smelting furnace (tons).)	R-1	13
R	98.186(b)(6)	Annual material quantity used for the calculation of annual process CO_2 emissions (No CEMS) (Scrap = Annual mass of lead scrap charged to the smelting furnace (tons).)	R-1	13
R	98.186(b)(6)	Annual material quantity used for the calculation of annual process CO_2 emissions (No CEMS) (Flux = Annual mass of flux materials (e.g., limestone, dolomite) charged to the smelting furnace (tons).)	R-1	13
R	98.186(b)(6)	Annual material quantity used for the calculation of annual process CO_2 emissions (No CEMS) (Carbon = Annual mass of carbonaceous materials (e.g., coal, coke) charged to the smelting furnace (tons).)	R-1	13
R	98.186(b)(6)	Annual material quantity used for the calculation of annual process CO_2 emissions (No CEMS) (Other = Annual mass of any other material containing carbon, other than fuel, fed, charged, or otherwise introduced into the smelting furnace (tons).)	R-1	13
R	98.186(b)(7)	Annual average of the carbon content determinations for each material used for the calculation of annual process CO_2 emissions (No CEMS) (COre= Carbon content of the lead ore, from the carbon analysis results (percent by weight, expressed as a decimal fraction).)	R-1	13
R	98.186(b)(7)	Annual average of the carbon content determinations for each material used for the calculation of annual process CO_2 emissions (No CEMS). (CScrap= Carbon content of the lead scrap, from the carbon analysis (percent by weight, expressed as a decimal fraction).)	R-1	13
R	98.186(b)(7)	Annual average of the carbon content determinations for each material used for the calculation of annual process CO_2 emissions (No CEMS). (CFlux= Carbon content of the flux materials, from the carbon analysis (percent by weight, expressed as a decimal fraction).)	R-1	13
R	98.186(b)(7)	Annual average of the carbon content determinations for each material used for the calculation of annual process CO_2 emissions (No CEMS). (CCarbon= Carbon content of the carbonaceous materials, from the carbon analysis (percent by weight, expressed as a decimal fraction).)	R-1	13
R	98.186(b)(7)	Annual average of the carbon content determinations for each material used for the calculation of annual process CO_2 emissions (No CEMS). (COther= Carbon content of the other material from the carbon analysis results (percent by weight, expressed as a decimal fraction).)	R-1	13
S	98.196(b)(2)	Monthly emission factors for each lime type produced.	S-1	73
S	98.196(b)(2)	Monthly emission factors for each lime type produced.	S-4	73
S	98.196(b)(3)	Monthly emission factors for each calcined byproduct/waste by lime type that is sold. (EFLKD,i,n)	S-2	73
S	98.196(b)(3)	Monthly emission factors for each calcined byproduct/waste by lime type that is sold. (EFLKD,i,n)	S-4	73
S	98.196(b)(5)	Monthly results of chemical composition analysis of each type of lime product produced (No CEMS)	No Equation -described in 98.196(b)(5).	73
S	98.196(b)(5)	Monthly results of chemical composition analysis of each type of calcined lime byproducts/wastes sold (No CEMS)	No Equation -described in 98.196(b)(5).	73
S	98.196(b)(6)	Annual results of chemical composition analysis of each type of lime byproducts/wastes that is not sold (No CEMS)	No Equation -described in 98.196(b)(6).	73
S	98.196(b)(8)	Monthly amount of lime product sold, by type (No CEMS)	No Equation -described in 98.196(b)(8).	73
S	98.196(b)(10)	Monthly amount of calcined lime byproduct/waste sold, by type (No CEMS)	No Equation -described in 98.196(b)(10).	73
S	98.196(b)(11)	Annual amount of calcined lime byproduct/waste that is not sold, by type (No CEMS)	No Equation -described in 98.196(b)(11).	73

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
S	98.196(b)(12)	Monthly weight or mass of each lime type produced (No CEMS)	S-4	73
U	98.216(b)	Annual carbonate consumption by carbonate type	U-1	18
U	98.216(e)(1)	Annual carbonate consumption by carbonate type	U-1	18
U	98.216(e)(2)	Annual calcination fractions used in calculations	U-1	18
U	98.216(b)	Annual carbonate input by carbonate type	U-2	18
U	98.216(f)(1)	Annual carbonate input by carbonate type	U-2	18
U	98.216(f)(2)	Annual carbonate output by carbonate type	U-2	18
V	98.226(c)	Annual nitric acid production from each nitric acid train (tons, 100% acid basis) (Pt)	V-2	36
V	98.226(c)	Annual nitric acid production from each nitric acid train (tons, 100% acid basis) (Pt)	V-3a	36
V	98.226(c)	Annual nitric acid production from each nitric acid train (tons, 100% acid basis) (Pt)	V-3b	36
V	98.226(c)	Annual nitric acid production from each nitric acid train (tons, 100% acid basis) (Pt)	V-3c	36
V	98.226(c)	Annual nitric acid production from each nitric acid train (tons, 100% acid basis) (Pt)	V-3d	36
V	98.226(d)	Annual nitric acid production during which N_2O abatement technology is operating (tons, 100% acid basis)	V-2	36
V	98.226(i)	Abatement technology destruction efficiency (DF)	V-3a	36
V	98.226(i)	Abatement technology destruction efficiency (DF)	V-3b	36
V	98.226(i)	Abatement technology destruction efficiency (DF)	V-3c	36
V	98.226(j)	Abatement utilization factor (AF)	V-3a	36
V	98.226(j)	Abatement utilization factor (AF)	V-3b	36
V	98.226(j)	Abatement utilization factor (AF)	V-3c	36
V	98.226(m)(1)	Emission factor calculated for each nitric acid train (EFN_2Ot)	V-3a	36
V	98.226(m)(1)	Emission factor calculated for each nitric acid train (EFN_2Ot)	V-3b	36
V	98.226(m)(1)	Emission factor calculated for each nitric acid train (EFN_2Ot)	V-3c	36
V	98.226(m)(1)	Emission factor calculated for each nitric acid train (EFN_2Ot)	V-3d	36
V	98.226(m)(3)	Production rate per test run during performance test for each train.	V-1	36
V	98.226(m)(4)	N_2O concentration per test run during performance test for each train.	V-1	36
V	98.226(m)(5)	Volumetric flow rate per test run during performance test each train.	V-1	36
V	98.226(m)(6)	Number of test runs during performance test each train.	V-1	36
V	98.226(p)	Fraction control factor for each abatement technology (percent of total emissions from the production unit that are sent to the abatement technology) if equation V-3c is used.	V-3c	36
W	98.236(c)(1)(i)	Actual count of natural gas pneumatic high bleed devices.	W-1	873
W	98.236(c)(1)(i)	Estimated count of natural gas pneumatic high bleed devices.	W-1	873
W	98.236(c)(1)(ii)	Actual count of natural gas pneumatic low bleed devices.	W-1	873
W	98.236(c)(1)(ii)	Estimated count of natural gas pneumatic low bleed devices.	W-1	873
W	98.236(c)(1)(iii)	Actual count of natural gas pneumatic intermittent bleed devices.	W-1	873
W	98.236(c)(1)(iii)	Estimated count of natural gas pneumatic intermittent bleed devices.	W-1	873
W	98.236(c)(2)(i)	Count of natural gas driven pneumatic pumps.	W-2	873
W	98.236(c)(3)(i)	Total throughput of each acid gas removal unit using a meter or engineering estimate based on process knowledge or best available data.	W-3	186
W	98.236(c)(3)(ii)	For Calculation Methodology 2 of §98.233(d), annual average fraction of CO_2 content in the vent from each acid gas removal unit.	W-3	186
W	98.236(c)(3)(iii)	For Calculation Methodology 3 of §98.233(d), annual average volume fraction of CO_2 content of natural gas into each acid gas removal unit.	W-4A	186
W	98.236(c)(3)(iii)	For Calculation Methodology 3 of §98.233(d), annual average volume fraction of CO_2 content of natural gas into each acid gas removal unit.	W-4B	186
W	98.236(c)(3)(iii)	For Calculation Methodology 3 of §98.233(d), annual average volume fraction of CO_2 content of natural gas out of each acid gas removal unit.	W-4A	186
W	98.236(c)(3)(iii)	For Calculation Methodology 3 of §98.233(d), annual average volume fraction of CO_2 content of natural gas out of each acid gas removal unit.	W-4B	186
W	98.236(c)(3)(iv)	Annual quantity of CO_2, that was recovered from each acid gas removal unit and transferred outside the facility (metric tons CO_2e), under subpart PP of this part.	98.233(d)(11)	186
W	98.236(c)(4)(i)(A)	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.	Methodology 1	186
W	98.236(c)(4)(i)(B)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Glycol dehydrator absorbent circulation pump type.	Methodology 1	186
W	98.236(c)(4)(i)(C)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Report whether stripper gas is used in glycol dehydrator.	Methodology 1	186

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
W	98.236(c)(4)(i)(D)	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.	Methodology 1	186
W	98.236(c)(4)(i)(E)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Report type of absorbent.	Methodology 1	186
W	98.236(c)(4)(i)(F)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Total time the glycol dehydrator is operating in hours.	Methodology 1	186
W	98.236(c)(4)(i)(G)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Temperature of the wet natural gas (degrees Fahrenheit).	Methodology 1	186
W	98.236(c)(4)(i)(G)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Pressure of the wet natural gas (psig).	Methodology 1	186
W	98.236(c)(4)(i)(H)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Concentration of CO_2 in wet natural gas.	Methodology 1	186
W	98.236(c)(4)(i)(H)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Concentration of CH_4 in wet natural gas.	Methodology 1	186
W	98.236(c)(4)(ii)(A)	For all glycol dehydrator with throughput less than 0.4 MMscfd: Count of glycol dehydrators.	W-5	186
W	98.236(c)(5)(i)(D)	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).	W-7	873
W	98.236(c)(5)(ii)(C)	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.	W-8	873
W	98.236(c)(5)(ii)(C)	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.	W-9	873
W	98.236(c)(6)(i)(B)	For well completions and 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 completion (cubic feet per hour).	W-10A	873
W	98.236(c)(6)(i)(D)	For well completions and 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 (cubic feet per hour).	W-12	873
W	98.236(c)(6)(i)(E)	For well completions and 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 completions.	W-10A	873
W	98.236(c)(6)(i)(F)	For well completions and 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.	W-10A	873
W	98.236(c)(6)(i)(G)	For well completions and workovers with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: The amount of gas recovered to sales using engineering estimate based on best available data.	W-10A	873
W	98.236(c)(6)(i)(H)	For well workovers with hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: The amount of gas recovered to sales using engineering estimate based on best available data.	W-10A	873
W	98.236(c)(6)(ii)(A)	For well completions and workovers without hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: Total count of completions in calendar year.	W-13	873
W	98.236(c)(6)(ii)(B)	For well completions and workovers without 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.	W-13	873
W	98.236(c)(7)(i)(A)	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)	W-14A	873
W	98.236(c)(8)(i)(F)	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.	Methodology 1 (see 98.236j2)	873
W	98.236(c)(8)(i)(F)	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.	Methodology 2 (see 98.233j1)	873
W	98.236(c)(8)(i)(K)	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 CO_2 gas quantities that were recovered (metric tons CO_2e), for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 1 of §98.233(j).	98.233(j)(6)(i)	873

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
W	98.236(c)(8)(ii)(A)	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).	Methodology 3 and 4 [see 98.233(j)(3) and (j)(4)]	873
W	98.236(c)(8)(ii)(H)	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 CO_2 gas quantities that were recovered (metric tons CO_2e), for Calculation Methodology 3 or 4 of §98.233(j).	98.233(j)(6)(i)	873
W	98.236(c)(8)(iii)(A)	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.	W-15	873
W	98.236(c)(8)(iii)(B)	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.	W-15	873
W	98.236(c)(8)(iii)(G)	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 CO_2 gas quantities that were recovered (metric tons CO_2e), at the sub-basin level for Calculation Methodology 5 of §98.233(j).	98.233(j)(6)(i)	873
W	98.236(c)(12)(ii)	For flare stacks: Volume of gas sent to flare (cubic feet per year).	W-19	1059
W	98.236(c)(12)(ii)	For flare stacks: Volume of gas sent to flare (cubic feet per year).	W-20	1059
W	98.236(c)(12)(ii)	For flare stacks: Volume of gas sent to flare (cubic feet per year).	W-21	1059
W	98.236(c)(12)(v)	For flare stacks: Flare combustion efficiency.	W-19	1059
W	98.236(c)(12)(v)	For flare stacks: Flare combustion efficiency.	W-21	1059
W	98.236(c)(13)(i)(E)	For compressors with wet seals in operational mode: Reporter emission factor for wet seal oil degassing vents in cubic feet per hour (refer to Equation W-24 of 40 CFR 98.233).	W-23	200
W	98.236(c)(13)(i)(F)	For compressors with wet seals in operational mode: Total time the compressor is operating (hours).	W-22	200
W	98.236(c)(13)(i)(F)	For compressors with wet seals in operational mode: Total time the compressor is operating (hours).	W-23	200
W	98.236(c)(13)(ii)(A)	For wet and dry seal centrifugal compressors in operating mode: Total time the compressor is in operating mode (hours).	W-23	200
W	98.236(c)(13)(ii)(B)	For wet and dry seal centrifugal compressors in operating mode: Reporter emission factor for blowdown vents (cubic feet per hour).	W-23	200
W	98.236(c)(13)(iii)(A)	For wet and dry seal centrifugal compressors: Total time the compressor is in shutdown, depressurized mode (hours).	W-22	200
W	98.236(c)(13)(iii)(A)	For wet and dry seal centrifugal compressors: Total time the compressor is in shutdown, depressurized mode (hours).	W-23	200
W	98.236(c)(13)(iii)(B)	For wet and dry seal centrifugal compressors: Reporter emission factor for isolation valve emissions in shutdown, depressurized mode (cubic feet per hour).	W-23	200
W	98.236(c)(13)(v)(A)	For centrifugal compressors in onshore petroleum and natural gas production: Count of compressors.	W-25	200
W	98.236(c)(14)(i)(B)	For reciprocating compressors rod packing emissions with or without a vent in operating mode: Total time the reciprocating compressor is in operating mode (hours).	W-26	200
W	98.236(c)(14)(i)(B)	For reciprocating compressors rod packing emissions with or without a vent in operating mode: Total time the reciprocating compressor is in operating mode (hours).	W-27	200
W	98.236(c)(14)(ii)(A)	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).	W-26	200
W	98.236(c)(14)(ii)(A)	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).	W-27	200
W	98.236(c)(14)(ii)(B)	For reciprocating compressors blowdown vents not manifold to rod packing vents, in operating and standby pressurized mode: Emission factor for blowdown vents (cubic feet per hour).	W-27	200
W	98.236(c)(14)(iii)(A)	For reciprocating compressors: Total time the compressor is in not operating, depressurized mode.	W-26	200
W	98.236(c)(14)(iii)(A)	For reciprocating compressors: Total time the compressor is in not operating, depressurized mode.	W-27	200
W	98.236(c)(14)(iii)(B)	For reciprocating compressors: Reporter emission factor for isolation valve emissions in not operating, depressurized mode.	W-27	200
W	98.236(c)(14)(v)(A)	For reciprocating compressors in onshore petroleum and natural gas production: Count of compressors.	W-29	200

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
W	98.236(c)(15)(ii)(A)	For equipment leaks calculated using population counts and factors [refer to §98.233(r)], report the following: For source categories 40 CFR 98.230(a)(4), (a)(5), (a)(6), (a)(7), and (a)(8) total count for each type of leak source 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.	W-31	873
W	98.236(c)(15)(ii)(B)	For equipment leaks calculated using population counts and factors [refer to §98.233(r)], report the following: For equipment leaks calculated using population counts and factors: For onshore production [refer to 40 CFR 98.230(a)(2)], total count for each type of major equipment in Table W-1B and Table W-1C of this subpart, by sub-basin category.	W-31	873
W	98.236(c)(16)(viii)	For local distribution companies: Leak factor for meter/regulator run developed in Equation W-32 of §98.233.	W-31	150
W	98.236(c)(16)(ix)	For local distribution companies: Number of miles of unprotected steel distribution mains.	W-31	150
W	98.236(c)(16)(x)	For local distribution companies: Number of miles of protected steel distribution mains.	W-31	150
W	98.236(c)(16)(xi)	For local distribution companies: Number of miles of plastic distribution mains.	W-31	150
W	98.236(c)(16)(xii)	For local distribution companies: Number of miles of cast iron distribution mains.	W-31	150
W	98.236(c)(16)(xiii)	For local distribution companies: Number of unprotected steel distribution services.	W-31	150
W	98.236(c)(16)(xiv)	For local distribution companies: Number of protected steel distribution services.	W-31	150
W	98.236(c)(16)(xv)	For local distribution companies: Number of plastic distribution services.	W-31	150
W	98.236(c)(16)(xvi)	For local distribution companies: Number of copper distribution services.	W-31	150
W	98.236(c)(17)(ii)	For each EOR injection pump blowdown: Volume of critical phase gas between isolation valves.	W-37	N/A
W	98.236(c)(17)(iii)	For each EOR injection pump blowdown: Number of blowdowns per year.	W-37	N/A
W	98.236(c)(17)(iv)	For each EOR injection pump blowdown: Critical phase EOR injection gas density.	W-37	N/A
W	98.236(c)(18)(i)	For EOR hydrocarbon liquids dissolved CO_2 for each sub-basin category: Volume of crude oil produced (barrels per year).	W-38	N/A
W	98.236(c)(18)(ii)	For EOR hydrocarbon liquids dissolved CO_2 for each sub-basin category: Amount of CO_2 retained in hydrocarbon liquids (metric tons per barrel), under standard conditions.	W-38	N/A
W	98.236(c)(19)(iv)	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.	W-39A	873
W	98.236(c)(19)(iv)	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.	W-39B	873
W	98.236(c)(19)(iv)	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.	W-40	873
W	98.236(c)(19)(vii)	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.	W-39A	873
W	98.236(c)(19)(vii)	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.	W-39B	873
W	98.236(c)(19)(vii)	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.	W-40	873
X	98.246(a)(4)	Monthly volume values (used in Equations X-1 to X-3) - Volume of gaseous feedstock I introduced in month "n" $((F_{gf})_{n)}$	X-1	64
X	98.246(a)(4)	Monthly volume values (used in Equations X-1 to X-3) - Volume of gaseous product i produced in month "n" $((P_{gf})_{n)}$	X-1	64
X	98.246(a)(4)	Monthly volume values (used in Equations X-1 to X-3) - Volume of liquid feedstock i for month "n" $((F_{lf})_n)$	X-2	64
X	98.246(a)(4)	Monthly volume values (used in Equations X-1 to X-3) - Volume of liquid product i for month "n" $((P_{lp})_n)$	X-2	64
X	98.246(a)(4)	Monthly mass values (used in Equations X-1 to X-3) - Mass of liquid feedstock i for month "n" $((F_{lf})_n)$	X-2	64
X	98.246(a)(4)	Monthly mass values (used in Equations X-1 to X-3) - Mass of liquid product i for month "n" $((P_{lp})_n)$	X-2	64
X	98.246(a)(4)	Monthly mass values (used in Equations X-1 to X-3) - Mass of solid feedstock I for month "n" $((F_{sf})_n)$	X-3	64

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
X	98.246(a)(4)	Monthly mass values (used in Equations X-1 to X-3) - Mass of solid product i for month "n" ($(P_{sp})_n$)	X-3	64
X	98.246(a)(4)	Monthly carbon content values (used in Equations X-1 to X-3) - Average carbon content of the gaseous feedstock I for month "n" ((CCgf)n)	X-1	64
X	98.246(a)(4)	Monthly carbon content values (used in Equations X-1 to X-3) - Average carbon content of the gaseous product i for month "n" ((CCgp)n)	X-1	64
X	98.246(a)(4)	Monthly carbon content values (used in Equations X-1 to X-3) - Average carbon content of the liquid feedstock i for month "n" ($(CC_{lf})n$)	X-2	64
X	98.246(a)(4)	Monthly carbon content values (used in Equations X-1 to X-3) - Average carbon content of the liquid product i for month "n" ((CClp)n)	X-2	64
X	98.246(a)(4)	Monthly carbon content values (used in Equations X-1 to X-3) - Average carbon content of the solid feedstock i for month "n" ($(CC_{lf})n$)	X-3	64
X	98.246(a)(4)	Monthly carbon content values (used in Equations X-1 to X-3) - Average carbon content of the solid product i for month "n" ((CClp)n)	X-3	64
X	98.246(a)(4)	Molecular weights for gaseous feedstocks (used in Equation X-1)	X-1	64
X	98.246(a)(4)	Molecular weights for gaseous products (used in Equation X-1)	X-1	64
X	98.246(a)(4)	Indicate whether you used the alternative to sampling and analysis	X-1	64
X	98.246(a)(4)	Indicate whether you used the alternative to sampling and analysis	X-2	64
X	98.246(a)(4)	Indicate whether you used the alternative to sampling and analysis	X-3	64
X	98.246(b)(5)(iii)	Quantity of each type of fuel used in equation C-8 in 98.33(c) for each stationary combustion unit or group of units (as applicable) during the reporting year, expressed in short tons for solid fuels, gallons for liquid fuels, and scf for gaseous fuels.	C-8	64
X	98.246(b)(5)(iv)	The HHV (either default or annual average from measured data) used in equation C-8 in 98.33(C) for each stationary combustion unit or group of units (as applicable).	C-8	64
Y	98.256(e)(6)	If using Equation Y-1a: report the molar volume conversion factor (in scf/g-mole) for each flare.	Y-1a	145
Y	98.256(e)(7)	If using Equation Y-1b: report molar volume conversion factor for each flare.	Y-1b	145
Y	98.256(e)(7)(ii)	If using Equation Y-1b: report the carbon mole number of each carbon containing compound other than CO_2 in the flare gas stream for each flare.	Y-1b	145
Y	98.256(e)(9)	Annual volume of flare gas combusted during normal operations	Y-3	145
Y	98.256(e)(9)	Annual average higher heating value of the flare gas	Y-3	145
Y	98.256(e)(9)	Volume of gas flared during SSM event	Y-3	145
Y	98.256(e)(9)	Average molecular weight	Y-3	145
Y	98.256(e)(9)	Carbon content of the flare gas	Y-3	145
Y	98.256(e)(9)	If using Equation Y-3: report the molar volume conversion factor for each flare.	Y-3	145
Y	98.256(e)(10)	Fraction of carbon in the flare gas contributed by methane (used in Equation Y-4)	Y-4	145
Y	98.256(f)(7)	If using Equation Y-6: report the molar volume conversion factor.	Y-6	145
Y	98.256(f)(10)	Coke burn-off factor	Y-8	145
Y	98.256(f)(10)	Annual throughput of unit	Y-8	145
Y	98.256(f)(10)	Average carbon content of coke	Y-8	145
Y	98.256(f)(11)	Units of measure for the unit-specific CH_4 emission factor	Used in method specified in 98.253(c)(4)	145
Y	98.256(f)(11)	Activity data for calculating emissions	Used in method specified in 98.255(c)(4)	145
Y	98.256(f)(11)	If you use a unit-specific emission factor for CH_4: report the unit-specific emission factor for CH_4 each catalytic cracking units, traditional fluid coking units, and catalytic reforming units	Used in method specified in 98.253(c)(4)	145
Y	98.256(f)(12)	If a unit-specific emission factor for N_2O was used: report the unit-specific emission factor for N_2O each catalytic cracking units, traditional fluid coking units, and catalytic reforming units	Used in method specified in 98.253(c)(5)	145
Y	98.256(f)(12)	Units of measure for the unit-specific N_2O emission factor	Used in method specified in 98.253(c)(5)	145
Y	98.256(f)(12)	Activity data for calculating emissions	Used in method specified in 98.255(c)(5)	145
Y	98.256(f)(13)	Average carbon content of coke	Y-11	145
Y	98.256(h)(4)	If Equation Y-12 is used: Annual volumetric flow to the sulfur recovery plant	Y-12	145
Y	98.256(h)(4)	If Equation Y-12 is used: Annual average mole fraction of carbon in the sour gas	Y-12	145
Y	98.256(h)(4)	If Equation Y-12 is used: report the molar volume conversion factor	Y-12	145
Y	98.256(h)(5)	Value of the correction	Used in method specified in 98.253(h)(3)	145
Y	98.256(h)(5)	Annual volume of recycled tail gas (if used to calculate recycling correction factor)	Used in method specified in 98.253(h)(3)	145

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
Y	98.256(h)(5)	Annual average mole fraction of carbon in the tail gas (if used to calculate recycling correction factor)	Used in method specified in 98.253(h)(3)	145
Y	98.256(i)(5)	If you use Eq. Y-13, report the annual mass of green coke fed to the for each coke calcining unit	Y-13	145
Y	98.256(i)(5)	If you use Eq. Y-13, report the carbon content of green coke fed to the for each coke calcining unit	Y-13	145
Y	98.256(i)(5)	If you use Eq. Y-13, report the annual mass of marketable coke produced for each coke calcining unit	Y-13	145
Y	98.256(i)(5)	If you use Eq. Y-13, report the carbon content of marketable coke produced for each coke calcining unit	Y-13	145
Y	98.256(i)(5)	If Equation Y-13 used for coke calcining units: report the annual mass of coke dust removed from the process through collected in dust collection systems	Y-13	145
Y	98.256(i)(7)	For coke calcining: The unit-specific CH_4 emission factor	Used in method specified in 98.253(c)(4)	145
Y	98.256(i)(7)	For coke calcining: Units of measure for the unit-specific CH_4 emission factor	Used in method specified in 98.253(c)(4)	145
Y	98.256(i)(7)	For coke calcining: Activity data for calculating emissions	Used in method specified in 98.253(c)(4)	145
Y	98.256(i)(8)	For coke calcining: If a unit specific emission factor was used for the N_2O factor: report the units of measure for the unit-specific factor	Used in method specified in 98.253(c)(5)	145
Y	98.256(i)(8)	For coke calcining: If a unit specific emission factor was used for the N_2O factor: report the activity data used for calculating emissions	Used in method specified in 98.253(c)(5)	145
Y	98.256(i)(8)	For coke calcining: If a unit-specific emission factor for N_2O was used, report the site-specific emission factor	Used in method specified in 98.253(c)(5)	145
Y	98.256(j)(2)	Quantity of asphalt blown for each for each asphalt blowing unit	Y-14	145
Y	98.256(j)(2)	Quantity of asphalt blown for each for each asphalt blowing unit	Y-15	145
Y	98.256(j)(2)	Quantity of asphalt blown for each for each asphalt blowing unit	Y-16a	145
Y	98.256(j)(2)	Quantity of asphalt blown for each for each asphalt blowing unit	Y-16b	145
Y	98.256(j)(2)	Quantity of asphalt blown for each for each asphalt blowing unit	Y-17	145
Y	98.256(j)(5)	CO_2 emission factor for each asphalt blowing unit	Y-14	145
Y	98.256(j)(6)	CH_4 emission factor for each asphalt blowing unit	Y-15	145
Y	98.256(j)(7)	If Equation Y-16 is used: report the carbon emission factor	Y-16a	145
Y	98.256(j)(8)	If Equation Y-16b is used: report the CO_2 emission factor used	Y-16b	145
Y	98.256(j)(8)	If Equation Y-16b is used: report the carbon emission factor	Y-16b	145
Y	98.256(j)(9)	If you use Eq. Y-17: CH_4 emission factor	Y-17	145
Y	98.256(k)(3)	For delayed coking units: Dimensions of coke drum or vessel	Y-18	145
Y	98.256(k)(3)	For delayed coking units: Typical gauge pressure of the coking drum when first vented to the atmosphere	Y-18	145
Y	98.256(k)(3)	For delayed coking units: Typical void fraction of coke drum or vessel	Y-18	145
Y	98.256(k)(3)	For delayed coking units: Annual number of coke-cutting cycles of coke drum or vessel	Y-18	145
Y	98.256(k)(3)	For delayed coking units: report the molar volume conversion factor for each coke drum or vessel.	Y-18	145
Y	98.256(k)(4)	For delayed coking units: Height and diameter of the coke drums	Y-18	145
Y	98.256(k)(4)	For delayed coking units: Cumulative number of vessel openings for all delayed coking drums in the set	Y-18	145
Y	98.256(k)(4)	For delayed coking units: Typical venting pressure	Y-18	145
Y	98.256(k)(4)	For delayed coking units: Void fraction	Y-18	145
Y	98.256(k)(4)	For delayed coking units: Mole fraction of methane in coking gas	Y-18	145
Y	98.256(l)(5)	For each process vent: Molar volume conversion factor	Y-19	145
Y	98.256(m)(3)	Uncontrolled blowdown systems reporting under 98.253 (k): Total quantity of crude oil plus the quantity of intermediate products received from off-site that are processed at the facility in the reporting year	Y-20	145
Y	98.256(m)(3)	Uncontrolled blowdown systems reporting under 98.253 (k): CH_4 emission factor used	Y-20	145
Y	98.256(m)(3)	Uncontrolled blowdown systems reporting under 98.253 (k): Molar volume conversion factor	Y-20	145
Y	98.256(n)(3)	For equipment leaks: Number of each type of emission source listed in Equation Y-21 (if using Eq. Y-21)	Y-21	145
Y	98.256(n)(3)	For equipment leaks: Number of each type of emission source listed in Equation Y-21 (if not using Eq. Y-21)	Using method specified in 98.253(l)(1)	145
Y	98.256(o)(2)(ii)	Total quantity of crude oil plus the quantity of intermediate products received from off-site that are processed at the facility in the reporting year	Y-22	145

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
Y	98.256(o)(4)(ii)	For storage tanks that process unstabilized crude oil: Quantity of unstabilized crude oil received during the calendar year	Y-23	145
Y	98.256(o)(4)(iii)	For storage tanks that process unstabilized crude oil: Average pressure differential	Y-23	145
Y	98.256(o)(4)(iv)	For storage tanks that process unstabilized crude oil: Molar volume conversion factor	Y-23	145
Y	98.256(o)(4)(v)	For storage tanks that process unstabilized crude oil: Average Mole fraction of CH_4 in vent gas from the unstabilized crude oil storage tanks	Y-23	145
Y	98.256(o)(4)(vi)	If you did not use Equation Y-23: report the tank-specific methane composition data used to estimate cumulative CH_4 emissions for storage tanks used to process unstabilized cruide oil.	Used in methods specified in 98.253(m)(2)	145
Y	98.256(o)(4)(vi)	If you did not use Equation Y-23: report the gas generation rate data used to estimate cumulative CH_4 emissions for storage tanks used to process unstabilized cruide oil.	Used in methods specified in 98.253(m)(2)	145
Y	98.256(o)(6)	Quantity of unstabilized crude oil received during the calendar year	Y-23	145
Y	98.256(o)(6)	Average pressure differential	Y-23	145
Y	98.256(o)(6)	Mole fraction of CH_4 in vent gas from the unstabilized crude oil storage tank	Y-23	145
Y	98.256(o)(7)	Tank-specific methane composition data	Used in methods specified in 98.253(m)(2)	145
Y	98.256(o)(7)	Gas generation rate data	Used in methods specified in 98.253(m)(2)	145
Y	98.256(p)(2)	For loading operations: Quantity of materials loaded by vessel type that have an equilibrium vapor-phase concentration of CH_4 of 0.5 volume percent or greater	Used in methods specified in AP-42, Section 5.2 [referenced by 98.253(n)]	145
Z	98.266(f)(5)	Monthly inorganic carbon content of phosphate rock for each wet-process phosphoric acid process line for which Equation Z-1a is used (percent by weight, expessed as decimal fraction) (No CEMS)	Z-1a	13
Z	98.266(f)(5)	Monthly CO_2 (ton CO_2/ton of phosphate rock) for which Equation Z-1b is used (No CEMS)	Z-1b	13
Z	98.266(f)(6)	Monthly mass of phosphate rock consumed by origin in production	Z-1a	13
Z	98.266(f)(6)	Monthly mass of phosphate rock consumed by origin in production	Z-1b	13
AA	98.276(b)	Annual quantities of fossil fuels used in chemical recovery furnaces	C-1	110
AA	98.276(b)	Annual quantities of fossil fuels used in chemical recovery furnaces	C-1a	110
AA	98.276(b)	Annual quantities of fossil fuels used in chemical recovery furnaces	C-1b	110
AA	98.276(b)	Annual quantities of fossil fuels used in chemical recovery furnaces	C-2a	110
AA	98.276(b)	Annual quantities of fossil fuels used in chemical recovery furnaces	C-3	110
AA	98.276(b)	Annual quantities of fossil fuels used in chemical recovery combustion units	C-4	110
AA	98.276(b)	Annual quantities of fossil fuels used in chemical recovery combustion units	C-5	110
AA	98.276(b)	Annual quantities of fossil fuels used in chemical recovery combustion units	C-8	110
AA	98.276(b)	Annual quantities of fossil fuels used in chemical recovery combustion units	C-8a	110
AA	98.276(b)	Annual quantities of fossil fuels used in chemical recovery combustion units	C-8b	110
AA	98.276(b)	Annual quantities of fossil fuels used in chemical recovery combustion units	C-9a	110
AA	98.276(c)	Annual mass of the spent liquor solids combusted	AA-1	110
AA	98.276(c)	Annual mass of the spent liquor solids combusted	AA-2	110
AA	98.276(d)	High heat value (HHV) of the spent liquor solids used in Equation AA-1	AA-1	110
AA	98.276(e)	Default or site specific emission factor for CO_2 used in equation AA-1	AA-1	110
AA	98.276(e)	Default or site specific emission factor for CH_4 used in equation AA-1	AA-1	110
AA	98.276(e)	Default or site specific emission factor for N_2O used in equation AA-1	AA-1	110
AA	98.276(f)	Carbon content of the spent liquor solids used in Equation AA-2	AA-2	110
AA	98.276(g)	Annual quantities of fossil fuels used in pulp mill lime kilns	C-1	110
AA	98.276(g)	Annual quantities of fossil fuels used in pulp mill lime kilns	C-1a	110
AA	98.276(g)	Annual quantities of fossil fuels used in pulp mill lime kilns	C-1b	110
AA	98.276(g)	Annual quantities of fossil fuels used in pulp mill lime kilns	C-2a	110
AA	98.276(g)	Annual quantities of fossil fuels used in pulp mill lime kilns	C-3	110
AA	98.276(g)	Annual quantities of fossil fuels used in pulp mill lime kilns	C-4	110
AA	98.276(g)	Annual quantities of fossil fuels used in pulp mill lime kilns	C-5	110
AA	98.276(g)	Annual quantities of fossil fuels used in pulp mill lime kilns	C-8	110
AA	98.276(g)	Annual quantities of fossil fuels used in pulp mill lime kilns	C-8a	110
AA	98.276(g)	Annual quantities of fossil fuels used in pulp mill lime kilns	C-8b	110

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
AA	98.276(g)	Annual quantities of fossil fuels used in pulp mill lime kilns	C-9a	110
AA	98.276(h)	Make-up quantity of $CaCO_3$ used for the reporting year used in Equation AA-3	AA-3	110
AA	98.276(i)	Make-up quantity of Na_2CO_3 used for the reporting year used in Equation AA-3	AA-3	110
BB	98.286(b)(1)	Monthly consumption of petroleum coke (No CEMS)	BB-2	1
BB	98.286(b)(4)	Carbon content factor of petroleum coke from the supplier or as measured by the applicable method	BB-1	1
BB	98.286(b)(6)	CO_2 emissions factor for each month	BB-2	1
CC	98.296(b)(5)	Monthly consumption of trona or liquid alkaline feedstock for each manufacturing line (No CEMS) (for facilities using Equation CC-1)	CC-1	4
CC	98.296(b)(6)	Monthly production of soda ash for each manufacturing line (tons) (for facilities using Equation CC-2)	CC-2	4
CC	98.296(b)(7)	Inorganic carbon content factor of trona or soda ash	CC-1	4
CC	98.296(b)(7)	Inorganic carbon content factor of trona or soda ash	CC-2	4
CC	98.296(b)(10)(i)	Stack gas volumetric flow rate during performance test (dscfm) for each manufacturing line or stack.	CC-3	4
CC	98.296(b)(10)(ii)	Hourly CO_2 concentration during performance test (percent CO_2) for each manufacturing line or stack	CC-3	4
CC	98.296(b)(10)(iii)	CO_2 emission factor of process vent flow from mine water for each manufacturing line or stack	CC-5	4
CC	98.296(b)(10)(iv)	CO_2 emission mass emission rate during performance test (metric tons/hour) for each manufacturing line or stack.	CC-4	4
CC	98.296(b)(10)(v)	Average process vent flow from mine water stripper/evaporator during performance test for each manufacturing line or stack	CC-4	4
CC	98.296(b)(10)(vi)	Annual process vent flow rate from mine stripper/evaporator for each manufacturing line or stack	CC-5	4
EE	98.316(b)(6)	Monthly calcined petroleum coke consumption for each production line (No CEMS)	EE-2	7
EE	98.316(b)(9)	Monthly carbon content factor of petroleum coke (percent by weight expressed as a decimal fraction) (No CEMS)	EE-2	7
GG	98.336(b)(6)	Annual mass of each carbon-containing input material charged to each kiln or furnace (No CEMS) - Mass of zinc bearing material	GG-1	6
GG	98.336(b)(6)	Annual mass of each carbon-containing input material charged to each kiln or furnace (No CEMS) - Annual mass of flux materials (e.g., limestone, dolomite) charged to kiln or furnace "k" (tons)	GG-1	6
GG	98.336(b)(6)	Annual mass of each carbon-containing input material charged to each kiln or furnace (No CEMS) - Annual mass of carbon electrode consumed in furnace "k"	GG-1	6
GG	98.336(b)(6)	Annual mass of each carbon-containing input material charged to each kiln or furnace (No CEMS) - Annual mass of carbon electrode consumed in furnace "k"	GG-1	6
GG	98.336(b)(7)	Carbon content of carbon-containing input materials charged to kilns or furnace (including zinc bearing material, flux materials, and other carbonaceous materials) from the annual carbon analysis or from information provided by the material supplier) for each kiln or furnace (percent by weight, expressed as a decimal fraction) (No CEMS) - zinc bearing material	GG-1	6
GG	98.336(b)(7)	Carbon content of carbon-containing input materials charged to kilns or furnace (including zinc bearing material, flux materials, and other carbonaceous materials) from the annual carbon analysis or from information provided by the material supplier) for each kiln or furnace (percent by weight, expressed as a decimal fraction) (No CEMS) - flux materials	GG-1	6
GG	98.336(b)(7)	Carbon content of carbon-containing input materials charged to kilns or furnace (including zinc bearing material, flux materials, and other carbonaceous materials) from the annual carbon analysis or from information provided by the material supplier) for each kiln or furnace (percent by weight, expressed as a decimal fraction) (No CEMS) - other carbonaceous materials	GG-1	6
GG	98.336(b)(10)	Carbon content of the carbon electrodes used in each furnace from the annual carbon analysis or from information provided by the material supplier) (percent by weight, expressed as a decimal fraction) (No CEMS)	GG-1	6
II	98.356(d)(2)	Cumulative volumetric biogas flow for each week that biogas is collected for destruction. (if using weekly sampling)	II-4	151
II	98.356(d)(3)	Weekly average CH_4 concentration for each week that biogas is collected for destruction. (if using weekly sampling)	II-4	151
II	98.356(d)(4)	Weekly average temperature at which flow is measured for biogas collected for destruction (if using weekly sampling)	II-4	151
II	98.356(d)(5)	Weekly average moisture content for each week at which flow is measured for biogas collected for destruction (if using weekly sampling)	II-4	151
II	98.356(d)(6)	Weekly average pressure for each week at which flow is measured for biogas collected for destruction (if using weekly sampling)	II-4	151

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Number of Facilities[a]
TT	98.466(c)(3)(i)	Total number of years (N) for which disposal and production data are both available.	TT-2	173
TT	98.466(c)(3)(ii)	The waste disposal quantity and production quantity for each year used in Equation TT–2 of this subpart to calculate the average waste disposal factor (WDF).	TT-2	173
TT	98.466(c)(3)(iii)	Average waste disposal factor (WDF) calculated for the waste stream.	TT-2	173

[a] Counts are based on RY2011.

Appendix B
Detailed Summary of Publicly Available Data that are the Same as the "inputs to equations" data elements

Table B-1. Public Availability of "Inputs to Equations" for Subpart C

Source	Description of Sources Reviewed	Results
Permits	10 Title V permits (1% of identified sources) from 10 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	Subpart C is referenced in 26 other industrial process subparts[2] that have data elements deferred to 2015. For each subpart, the following items were searched: • 2005 and 2008 NEI based on NAICS code and combustion SCCs • CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases based on registered GHGRP facilities[3]	Table B-1A summarizes the results from searching the 2005 and 2008 NEI for each subpart. Table B-1B summarizes the results from searching the other federal databases for each subpart. Table B-1D summarizes the results from reviewing the EIA forms.
State/Regional databases	Subpart C is referenced in 22 other subparts that have data elements deferred to 2015. For each subpart, the following items were searched: • online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative • websites of 18 states[4] that have or were considering mandatory reporting programs	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	The following databases were searched to support the NESHAP for Industrial, Commercial, and Institutional Boiler Area Sources (Docket# OAR-2006-0790) and the NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters - Major Source (Docket# OAR-2002-0058): • emissions_database_boilers_heatersv6.mdb • survey_database_2008_resultsv2.mdb	Table B-1C summarizes the results from searching these dockets for each subpart.
Journals	Power Engineering Magazine, Powergrid International.	No data elements were identified as being publicly available.

[1] AK, AR, CA, CO, IN, MO, NC, NY, RI, VA
[2] Subparts C, E, F, G, H, K, L, N, O, P, Q, R, S, U, V, W, X, Y, Z, AA, BB, CC, EE, GG, II, TT
[3] CAMD = Clean air markets division acid rain database; eGRID = Emissions & generation resource integrated database containing environmental characteristics of electrical power generated in the U.S.; DOE/EIA = Department of Energy energy information agency database; TRI = Toxic release inventory database; OECA ECHO = Office of Enforcement and Compliance Assurance Enforcement and Compliance History Online database.
[4] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-1A. Number of Facilities in the 2008 NEI that Report Combustion Data Identical to Subpart C "Inputs to Equations" (Summarized By Subpart)

Data element with citation	Subpart																							
	E	F	G	H	K	L	N	O	P	Q	R	S	U	V	W	X	Y	Z	AA	BB	CC	EE	GG	II	TT
Total quantity of each type of fuel combusted during the reporting year [98.36(e)(2)(i), eq. C-1, C-1a, C-1b, C-8]	0	1	3	7	2	1	7	1	5	19	0	6	2	0	[a]	1	7	4	27	0	0	2	0	5	27
HHV for each fuel combusted, annual basis [98.36(e)(2)(iv)(F), eq. C-8]	0	0	1	0	1	0	8	0	2	8	0	0	1	7	[a]	0	4	3	8	0	0	0	0	3	2

Blank cells denote the data element is not publicly available. No other data elements were identical to the publicly available information.

[a]An analysis of exact facility matches between the GHGRP and NEI was not completed due to the large number of facilities in this subpart.

Table B-1B. Number of Facilities In Other Federal Databases (DOE, CAMD, eGRID)[(a)] That Report Combustion Data Identical to Subpart C "Inputs to Equations" (Summarized By Subpart)

Data element with citation	Subpart																					
	E	F	G	H	K	L	N	O	P	Q	R	S	U	V	X	Y	Z	AA	BB	CC	EE	GG
Estimate of the heat input from each type of fuel [98.36(b)(9)(iii), eq. C-10; 98.36(c)(2)(ix), eq. C-10]			3	1			3		3	11				2	25	58		146		6	11	1
Total quantity of each type of fuel combusted during the reporting year [98.36(e)(2)(i), eq. C-1, C-1a, C-1b]			6	1			3		3	11				2	25	54		146		6	11	1
Total quantity of each type of fuel combusted during each month of the reporting year [98.36(e)(2)(ii)(A), eq. C-2b; 98.36(e)(2)(iv)(A), eq. C-3, C-4, C-5, C-8, C-8a, C-8b, C-9a, C-13]			6	1			3		3	11				2	25	54		146		6	11	1
Total quantity of fossil fuel combusted for each fuel combusted at units that combust both fossil fuel and biomass, annual basis [98.36(e)(2)(ix)(F), eq. C-13]			3	1			3		3	9				1	23	51		122		6	11	1

Blank cells denote the data element is not publicly available. No other data elements were identical to the publicly available information.

(a) DOE = DOE Energy information administration database; CAMD = clean air markets division reports for units subject to the acid rain program; eGRID = Emissions & Generation Resource Integrated Database containing environmental characteristics of electrical power generated in the United States.

Table B-1C. Number of Facilities In The Boiler Rule Development Dockets[(c)] That Report Combustion Data Identical to Subpart C "Inputs to Equations" (Summarized By Subpart)

Data element with citation	Subpart [(a)]				
	F, K, Q, R, GG (331-primary metals 3-digit NAICS)	**H, N, S** (327-non-metallic minerals 3-digit NAICS)	**E, G, L, O, P, V, X, Z, BB, CC, EE** (325-chemical manufacturing 3-digit NAICS)	**Y**	**AA**
HHV for each fuel combusted, annual basis [98.36(e)(2)(iv)(F), eq. C-8]	10[(b)]	11[(b)]	88[(b)]	21	121
Total quantity (i.e., pounds) of steam produced from MSW or solid fuel combustion during each month of the reporting year [98.36(e)(2)(ii)(D), eq. C-2c]					24
HHV for each fuel combusted at units that combust both fossil fuel and biomass, annual basis [98.36(e)(2)(ix)(E), eq. C-13]		(b)	(b)		51
Other data elements	(d)				

Blank cells denote the data element is not publicly available. No other data elements were identical to the publicly available information.

(a) The NAICS codes were used to align facilities in the boiler MACT database to part 98 subparts. Only three-digit NAICS codes were provided instead of the full NAICS codes; therefore, only general categories are known and it is not possible to determine if a data element is specifically available for a single subpart (other than for subparts Y and AA).

(b) Facilities may have reported HHV, data element is available for some subparts that are part of general 3-digit NAICS in Boiler database.

(c) Dockets reviewed were the Industrial, Commercial, and Institutional Boiler Area Sources NESHAP (Docket# OAR-2006-0790) and the NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters - Major Source (Docket# OAR-2002-0058):

(d) The following data elements are not publicly available in any subparts:

- Ratio of the maximum rated heat input capacity to the design rated steam output capacity of the unit [98.36(e)(2)(ii)(D), eq. C-2c]
- The carbon content used in the emission calculations (including both valid and substitute data values). For each calendar month of the reporting year in which carbon content and, if applicable, molecular weight determination is required, report a value of each parameter [98.36(e)(2)(iv)(C), eq. C-3, C-4, C-5]
- Gas molecular weight values used in the emission calculations (including both valid and substitute data values). For each calendar month of the reporting year in which carbon content and, if applicable, molecular weight determination is required, report a value of each parameter. If multiple values of a parameter are obtained in a given month, report the arithmetic average value for the month [98.36(e)(2)(iv)(C), eq. C-5]
- For units that combust both fossil fuel and biomass, when biogenic CO_2 is determined according to §98.33(e)(2), report the carbon-based F-factor [98.36(e)(2)(ix)(D), eq. C-13]

Table B-1D. Summary of Information Reported and Publicly Available in EIA Forms for Electric Generators

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Required to be Reported (R) in EIA Form for Facility (F), Unit (U), or Aggregated Units (A)[1]	Publicly Available (P) from EIA for Facility (F), Unit (U), or Aggregated Units (A)[1]	Can be Calculated from Data Required to be Reported (R) or Public (P) Information
C	98.36(b)(9)(iii)	Estimate of the heat input from each type of fuel listed in Table C-2 that was combusted in the unit during the report year	C-10	[2]		R
C	98.36(c)(2)(ix)	The flue gases from two or more stationary fuel combustion units at a facility are combined together and discharged through a common stack or duct before exiting to the atmosphere and if CEMS are used to continuously monitor CO_2 mass emissions at the common stack or duct according to the Tier 4 Calculation Methodology, you may report the combined emissions from the units sharing the common stack or duct, in lieu of separately reporting the GHG emissions from the individual units. This monitoring and reporting alternative may also be used when process off-gases or a mixture of combustion products and process gases are combined together in a common stack or duct before exiting to the atmosphere. An estimate of the heat input from each type of fuel listed in Table C-2 combusted during the reporting year.	C-10			
C	98.36(e)(2)(i)	Total quantity of each type of fuel combusted in each unit or group of aggregated units (as applicable) during the reporting year, in short tons for solid fuels, gallons for liquid fuels and standard cubic feet for gaseous fuels, or, if applicable, therms or mmBtu for natural gas.	C-1	[2]	F	R
C	98.36(e)(2)(i)	Total quantity of each type of fuel combusted in each unit or group of aggregated units (as applicable) during the reporting year, in short tons for solid fuels, gallons for liquid fuels and standard cubic feet for gaseous fuels, or, if applicable, therms or mmBtu for natural gas.	C-1a	[2]	F	R
C	98.36(e)(2)(i)	Total quantity of each type of fuel combusted in each unit or group of aggregated units (as applicable) during the reporting year, in short tons for solid fuels, gallons for liquid fuels and standard cubic feet for gaseous fuels, or, if applicable, therms or mmBtu for natural gas.	C-1b	[2]	F	R
C	98.36(e)(2)(i)	Total quantity of each type of fuel combusted in each unit or group of aggregated units (as applicable) during the reporting year, in short tons for solid fuels, gallons for liquid fuels and standard cubic feet for gaseous fuels, or, if applicable, therms or mmBtu for natural gas.	C-8	[2]	F	R
C	98.36(e)(2)(ii)(A)	For Tier 2: Total quantity of each type of fuel combusted in the unit or group of aggregated units (as applicable) during each month of the reporting year. Express the quantity of each fuel combusted during the measurement period in short tons for solid fuels, gallons for liquid fuels, and scf for gaseous fuels.	C-2b	F, U, A	F	
C	98.36(e)(2)(ii)(C)	High heat values used in the CO_2 emissions calculations for each fuel combusted during the reporting year. Report a HHV value for each calendar month in which HHV determination is required. If multiple values are obtained in a given month, report the arithmetic average value for the month.	C-2b	F, U, A		
C	98.36(e)(2)(ii)(D)	If Eq. C-2c is used: Total quantity (i.e., pounds) of steam produced from MSW or solid fuel combustion during each month of the reporting year,	C-2c			
C	98.36(e)(2)(ii)(D)	If Eq. C-2c is used: Ratio of the maximum rate heat input capacity to the design rated steam output capacity of the unit	C-2c			
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-3	F, U, A	F	

Subpart	Citation	Data Element	Data Element is used as Input to Equation . . .	Required to be Reported (R) in EIA Form for Facility (F), Unit (U), or Aggregated Units (A)[1]	Publicly Available (P) from EIA for Facility (F), Unit (U), or Aggregated Units (A)[1]	Can be Calculated from Data Required to be Reported (R) or Public (P) Information
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-4	F,U, A	F	
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-5	F, U, A	F	
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-8	F, U, A	F	
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-8a	F, U, A	F	
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-8b	F, U, A	F	
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted in the unit or group of units (as applicable) during each month of the reporting year (Fuel)	C-13	F, U, A	F	
C	98.36(e)(2)(iv)(C)	The carbon content used in the emission calculations (including both valid and substitute data values). For each calendar month of the reporting year in which carbon content and, if applicable, molecular weight determination is required, report a value of each parameter. If multiple values of a parameter are obtained in a given month, report the arithmetic average value for the month. (CC)	C-3			
C	98.36(e)(2)(iv)(C)	The carbon content used in the emission calculations (including both valid and substitute data values). For each calendar month of the reporting year in which carbon content and, if applicable, molecular weight determination is required, report a value of each parameter. If multiple values of a parameter are obtained in a given month, report the arithmetic average value for the month. (CC)	C-4			
C	98.36(e)(2)(iv)(C)	The carbon content used in the emission calculations (including both valid and substitute data values). For each calendar month of the reporting year in which carbon content and, if applicable, molecular weight determination is required, report a value of each parameter. If multiple values of a parameter are obtained in a given month, report the arithmetic average value for the month. (CC)	C-5			
C	98.36(e)(2)(iv)(C)	Gas molecular weight values used in the emission calculations (including both valid and substitute data values). For each calendar month of the reporting year in which carbon content and, if applicable, molecular weight determination is required, report a value of each parameter. If multiple values of a parameter are obtained in a given month, report the arithmetic average value for the month.	C-5			
C	98.36(e)(2)(iv)(F)	The annual average HHV, when measured HHV data, rather than a default HHV from Table C-1 of this subpart, are used to calculate CH_4 and N_2O emissions for a Tier 3 unit, in accordance with §98.33(c)(1).	C-8	[2]		R
C	98.36(e)(2)(ix)(D)	For units that combust both fossil fuel and biomass, when biogenic CO_2 is determined according to §98.33(e)(2), report the carbon-based F-factor used in Equation C-13 of this subpart	C-13			
C	98.36(e)(2)(ix)(E)	For units that combust both fossil fuel and biomass, when biogenic CO_2 is determined according to §98.33(e)(2), report the annual average HHV value used in Equation C-13 of this subpart	C-13	[2]		R
C	98.36(e)(2)(ix)(F)	For units that combust both fossil fuel and biomass, when biogenic CO_2 is determined according to §98.33(e)(2), report the total quantity of fossil fuel combusted during the reporting year.	C-13	[2]	F	R

[1] **Facility (F)** wide data are required to be reported for plants with total nameplate capacity ≥ 50 MW; **Unit** (U) information is required to be reported for steam boilers at plants with steam turbines (or combined cycle plants for supplementary firing of HRSG units) that have a nameplate capacity ≥ 10 MW; **Aggregated** (A) unit information (e.g., report natural gas consumed by all combustion turbines as one value and diesel fuel consumed by all IC engines as one value) for all gas turbines (including combined cycle plants), IC engines, and steam-electric plants < 10 MW.

[2] Information is required to be reported on a monthly basis and can be calculated for annual inputs.

Table B-2. Public Availability of "Inputs to Equations" for Subpart E

Source	Description of Sources Reviewed	Results
Permits	2 Title V permits (based on 2 affected facilities reporting to GHGRP) from 2 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	No rule development docket identified	Not applicable.
Journals	No trade journals identified	Not applicable.

[1] FL, TX
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-3. Public Availability of "Inputs to Equations" for Subpart F

Source	Description of Sources Reviewed	Results
Permits	3 Title V permits (21% of identified sources) from 2 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	3 of the 10 2011 GHGRP reporters report molten aluminum production to NEI. 98.66(a), Eqns. F-5 and F-6.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	Primary Aluminum Reduction Plants NESHAP • Section 114 responses	No data elements were identified as being publicly available.
Journals	Aluminum Today, Light Metal Age, Aluminum World, Journal of Alloys and Compounds	No data elements were identified as being publicly available.

[1] NY, OH
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-4. Public Availability of "Inputs to Equations" for Subpart G

Source	Description of Sources Reviewed	Results
Permits	9 Title V permits (39% of identified sources) from 7 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	No rule development docket identified	Not applicable.
Journals	No trade journals identified	Not applicable.

[1] GA, IA, OH, OK, TX, VA, WY
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-5. Public Availability of "Inputs to Equations" for Subpart H

Source	Description of Sources Reviewed	Results
Permits	11 Title V permits (10% of identified sources) from 10 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	Annual consumption of each raw kiln feed or annual consumption of each raw material [98.86(b)(13), Eqn. H-5] reported for 21 facilities with kilns.[3]
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	Portland Cement Manufacturing NESHAP • Section 114 responses from 9 companies representing 37 facilities • 5 companies considered some information as CBI. The data elements considered CBI varied from company to company. In general, raw material information (e.g., info on individual constituents) was considered CBI. • Survey was not focused toward getting detailed clinker production data • Data are from one-time data collection/sampling	**1 data element reported is the same as inputs** • 19 facilities reported annual usage for each raw material. [98.86(b)(13), eq. H-5]
Journals	Cement and Concrete Composites, World Cement, Cement Americas, Cement and Concrete Research, Global Cement	No data elements were identified as being publicly available.

[1] AZ, CO, FL, GA, ID, IN, ME, MI, MO, OR

[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

[3] Exact facility matches between NEI and 2011 GHGRP reporters were not assessed. The 21 facilities occur out of 707 facilities that meet the broader NAICS code search for the Subpart.

Table B-6. Public Availability of "Inputs to Equations" for Subpart K

Source	Description of Sources Reviewed	Results
Permits	1 Title V permit from Ohio	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[1]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	40 CFR part 63 subpart XXX, NESHAP from Ferroalloys Production: Ferromanganese and Silicomanganese • Section 114 responses from 2 plants (i.e., EPA-HQ-OAR-2004-0375, EPA-HQ-OAR-2010-0895) 40 CFR part 63 subpart YYYYYY, NESHAP for Area Sources: Ferroalloys Production Facilities • Section 114 responses from 10 plants (Docket EPA-HQ-OAR-2008-0154). Data are from one-time data collection/sampling	**Information reported (from 11 facilities) is the same as 2 data elements:** • Annual mass of alloy product for each EAF. 98.116(b) (eq. K-1 and K-3)
Journals	Journal of Alloys and Compounds, American Metal Market (USA)	No data elements were identified as being publicly available.

[1] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-7. Public Availability of "Inputs to Equations" for Subpart L

Source	Description of Sources Reviewed	Results
Permits	4 Title V permits (21% of identified sources) from 3 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	No rule development docket identified	Not applicable.
Journals	No trade journals identified	Not applicable.

[1] AR, IL, NC. There are only 16 potential affected facilities. Facilities in MI, TX, and NY do not have Title V permits. The facilities in AL, MN, PA, KY, NJ, SC, and LA do not have permits available online.
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-8. Public Availability of "Inputs to Equations" for Subpart N

Source	Description of Sources Reviewed	Results
Permits	10 Title V permits (18% of identified sources) from 10 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	Glass Manufacturing NESHAP (Area Sources) • Section 114 responses from 11 respondents	No data elements were identified as being publicly available.
Journals	Glass and Ceramics, Glass Science and Technology	No data elements were identified as being publicly available.

[1] AR, GA, IL, IN, MI, MO, NY, OH, OK, WI
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-9. Public Availability of "Inputs to Equations" for Subpart O

Source	Description of Sources Reviewed	Results
Permits	1 Title V permit (of 4 identified sources) from 1 state (WV)[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	No rule development docket identified	Not applicable.
Journals	No trade journals identified	Not applicable.

[1] The remaining 3 facilities located in AI, KY, and LA do not have permits available online.
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-10. Public Availability of "Inputs to Equations" for Subpart P

Source	Description of Sources Reviewed	Results
Permits	10 Title V permits from 3 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	No rule development docket identified	Not applicable.
Journals	Catalysis Today	No data elements were identified as being publicly available.

[1] CA, IN, TX
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-11. Public Availability of "Inputs to Equations" for Subpart Q

Source	Description of Sources Reviewed	Results
Permits	10 Title V permits from 10 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements from GHGRP facilities were identified as being publicly available.[3]
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	NESHAP for Stainless and Nonstainless Steel Electric Arc Furnaces (EAF) Manufacturing • Section 114 responses from 9 companies representing 27 plants and 38 EAFs • Data are from one-time data collection/sampling • Responses are from 2003 • Data are from one-time data collection/sampling	**4 data elements reported (from 25 facilities) are the same as inputs:** • In 98.176(b), annual raw steel produced (eq.Q-2, Q-5, and Q-6). • Average hourly feed or production rate during the stack test [98.176(f)(2)].
Journals	Iron and Steel Technology, Foundry Management and Technology, American Machinist, Forging Magazine, Advanced Materials and Processes, Institute of Materials, Minerals, and Mining	No data elements were identified as being publicly available.

[1] AL, AR, CO, FL, IN, MI, NC, OH, UT, VA

[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

[3] From a broader NAICS code search: 4 facilities report annual quantity raw steel produced (No CEMS) [98.176(b) Eqns. Q-2, Q-5, Q-6]; 8 facilities report Annual quantity iron produced (No CEMS) [98.176(b) Eqns. Q-2, Q-7];
8 facilities report Annual quantity coke produced (No CEMS) [98.176(b) Eqns. Q-2]

Table B-12. Public Availability of "Inputs to Equations" for Subpart R

Source	Description of Sources Reviewed	Results
Permits	3 Title V permits (of 7 identified sources) from 2 states (IN and NY)	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs [1]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	Primary Lead Smelting NESHAP • Section 114 responses Secondary Lead Smelting NESHAP • Section 114 responses • Data are from one-time data collection/sampling	**Information reported is the same as 5 data elements** • The amount of ore shipped to the facility for processing by mine (from 1 facility) and the amount of material charged to the smelter by type (for 5 facilities) are the same as data inputs to eq. R-1 in 98.186(b)(6), the annual material quantity used for calculation of process CO_2 emissions based on annual mass of: o lead ore charged to the smelting furnace (tons). o lead scrap charged to the smelting furnace (tons). o flux materials (e.g., limestone, dolomite) charged to the smelting furnace (tons). o carbonaceous materials (e.g., coal, coke) charged to the smelting furnace (tons). o any other material containing carbon, other than fuel, fed, charged, or otherwise introduced into the smelting furnace (tons).
Journals	No trade journals identified	Not applicable.

[1] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-13. Public Availability of "Inputs to Equations" for Subpart S

Source	Description of Sources Reviewed	Results
Permits	10 Title V permits (11% of identified sources) from 10 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	Lime Manufacturing Plants NESHAP • Docket items EPA-HQ-OAR-2002-0052-0080 & EPA-HQ-OAR-2002-0052-0196, which present a summary of non-CBI information obtained from a survey of lime manufacturers	No data elements were identified as being publicly available.
Journals	No trade journals identified	No data elements were identified as being publicly available.

[1] AR, AZ, ID, IN, MO, OH, UT, VA, WI, WV
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-14. Public Availability of "Inputs to Equations" for Subpart U

Source	Description of Sources Reviewed	Results
Permits	10 Title V permits from 9 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	No rule development docket identified	Not applicable.
Journals	No trade journals identified	Not applicable.

[1] CA, GA, ID, LA, MN, NC, OH, TX, WI
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-15. Public Availability of "Inputs to Equations" for Subpart V

Source	Description of Sources Reviewed	Results
Permits	10 Title V permits (22% of identified sources) from 10 states[1]	2 permits contained data that are exactly the same as 3 GHGRP data elements: • Abatement technology destruction efficiency. [98.266(i), eq. V-3a, V-3b, V-3c]
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	NSPS for Nitric Acid Plants dockets identified: EPA-HQ-OECA-2009-0525 EPA-HQ-OECA-2006-0437 EPA-HQ-OECA-2003-0030	Dockets only include ICRs and paperwork reduction/burden claims. No plant level information provided.
Journals	No trade journals identified	Not applicable.

[1] AR, FL, GA, IA, ID, OH, OK, TX, UT, WY
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-16. Public Availability of "Inputs to Equations" for Subpart W

Source	Description of Sources Reviewed	Results
Permits	Ranges from 2 to 24 Title V permits from 24 states[1]	Some permits contained data that are exactly the same as 18 data elements: • Whether flash tank separator is used in glycol dehydrator [98.236(c)(4)(i)(D)] – 4 permits • Count of glycol dehydrators [98.236(c)(4)(ii)(A)] – 14 permits • Total volume of sales oil from all wells [98.236(c)(8)(ii)(A)] – 1 permit • Volume of gas sent to flare [98.236(c)(12)(ii), eq. W-19, W-20, W-21] – 1 permit • Flare combustion efficiency [98.236(c)(12)(v), eq. W-19, W-21] – 1 permit • Count of centrifugal compressors [98.236(c)(13)(v)(A)] – 7 permits • Count of reciprocating compressors [98.236(c)(14)(v)(A)] – 14 permits • Count for each type of equipment leak source [98.236(c)(15)(ii)(A)] and for each type of major equipment [98.236(c)(15)(ii)(B)] – 3 permits • Volume of fuel combusted in external fuel combustion units [98.236(c)(19)(iv), eq. W-39A, W-39B, W-40] and internal fuel combustion units [98.236(c)(19)(vii), eq. W-39A, W-39B, W-40] – 10 permits
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	NEI reported data on 168 facilities in relevant NAICS codes for flare stacks[3]: Volume of gas sent to flare (cubic feet per year).[98.236(c)(12)(ii), Eqns. W-19, W-20, and W-21]
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, DOI/BOEM's (Department of Interior/Bureau of Ocean Energy Management) 2008 Gulfwide Emission Inventory, and 18 states that have or were considering mandatory reporting programs[2]	Gulfwide Emission Inventory contained data that are exactly the same as 7 data elements: • Count of natural gas driven pneumatic pumps [98.236(c)(2)(i)] • Total throughput of each AGR unit [98.236(c)(3)(i)] – Amine gas sweetening unit data for 4 facilities • Glycol dehydrator feed natural gas flow rate [98.236(c)(4)(i)(A)] – Throughput data for 304 facilities • Count of glycol dehydrators [98.236(c)(4)(ii)(A)] • Volume of gas sent to flare [98.236(c)(12)(ii), eq. W-19, W-20, W-21] – Throughput data for 102 facilities
Rule dockets (MACT/NSPS)	• Oil and Natural Gas Production and Natural Gas Transmission and Storage NESHAPs (Data are from one-time data collection/sampling)	Dockets contained data that are exactly the same as 9 data elements: • Glycol dehydrator feed natural gas flow rate [98.236(c)(4)(i)(A)] – 14 facilities

Source	Description of Sources Reviewed	Results
	• 2 surveys contained triethylene glycol dehydrator data for 23 units • 1 survey contained quantity of produced water from disposal wells for 3 facilities Oil and Natural Gas Production and Natural Gas Transmission and Distribution NSPS (Data are from one-time data collection/sampling) • Technology review document contained sulfur recovery data for 21 units at 15 facilities, glycol dehydrator data for 19 units at 9 facilities, and storage tank data for a tank at 1 facility	• For glycol dehydrators, absorbent circulation pump type [98.236(c)(4)(i)(B)], Whether stripper gas is used [98.236(c)(4)(i)(C)], Whether flash tank separator is used [98.236(c)(4)(i)(D)], Type of absorbent [98.236(c)(4)(i)(E)], Total time operating [98.236(c)(4)(i)(F)], Wet natural gas temperature and pressure [98.236(c)(4)(i)(G)], Concentration of CO_2 [98.236(c)(4)(i)(H)], and Concentration of CH_4 [98.236(c)(4)(i)(H)] – 8 facilities
Journals	Hydrocarbon Processing, World Oil, Touch Oil and Gas, Oil and Gas Journal	No data elements were identified as being publicly available.

[1] AK, AZ, CA, CO, FL, IA, IL, IN, LA, MI, MN, MO, MS, NC, NM, NY, OH, OK, TX, UT, VA, WI, WV, WY
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV
[3] Exact facility matches between the 1,550 subpart W facilities in GHGRP and NEI were not assessed.

Table B-17. Public Availability of "Inputs to Equations" for Subpart X

Source	Description of Sources Reviewed	Results
Permits	8 Title V permits (10% of identified sources) from 5 states[1]	No data elements were identified as being publicly available
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	1 data element reported is the same as inputs, the quantity of each type of fuel used for each stationary combustion unit or group of units during the reporting year. [98.246(b)(5)(iii), eq. C-8] • NEI contains information from 23 facilities (registered in the GHGRP) on the annual consumption of natural gas at the unit level. • NEI contains information from 1 facility (registered in the GHGRP) on the quantity of fuel used for each stationary combustion unit or group of units during the reporting year.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	Ethylene Processes NESHAP • Section 114 responses from 11 facilities • Data collected in 1997 one-time survey. Not available electronically.	No data elements were identified as being publicly available.
Journals	Hydrocarbon Processing, World Oil, Touch Oil and Gas, Oil and Gas Journal	No data elements were identified as being publicly available.

[1] IA, IL, OH, OK, TX
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-18. Public Availability of "Inputs to Equations" for Subpart Y

Source	Description of Sources Reviewed	Results
Permits	13 Title V permits from 12 states[1]	6 permits provided the information on the number of catalytic cracking units, coking units, hydrotreating units, and hydrogen plants [98.256(n)(3), eq. Y-21] • The permits did not provide the number of all the units listed in equation Y-21.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	2 data elements reported in NEI are the same as inputs, • Annual throughput of the unit [98.256(f)(10), eq. Y-8] was reported for cracking units at 16 facilities matched with GHGRP. • Annual average higher heating value of the flare gas [(98.256(e)(9), Eqn Y-3] was reported for 1 facility matched with GHGRP.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs [2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	Petroleum Refinery NSPS docket (subpart J) • Source test reports from 5 facilities • Data are from one-time data collection/sampling	5 data elements reported are the same as inputs: • Dimensions of coke drum or vessel [98.256(k)(3), eq. Y-18] • Typical gauge pressure of the coking drum when first vented to the atmosphere [98.256(k)(3), eq. Y-18] • Annual number of coke-cutting cycles of coke drum or vessel [98.256(k)(3), eq. Y-18] • Height and diameter of coke drums [98.256(k)(4), eq. Y-18] • Typical venting pressure of delayed coking units [98.256(k)(4), eq. Y-18]
Journals	Hydrocarbon Processing, World Oil, Touch Oil and Gas, Oil and Gas Journal	No data elements were identified as being publicly available.

[1] AK, AR, CO, GA, IL, IN, MI, OK, TX, WI, WV, WY
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-19. Public Availability of "Inputs to Equations" for Subpart Z

Source	Description of Sources Reviewed	Results
Permits	5 Title V permits (33% of identified sources) from 4 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	Phosphoric Acid Manufacturing NESHAP: • Meeting notes in supporting documentation	No data elements were identified as being publicly available.
Journals	No trade journals identified	Not applicable.

[1] FL, ID, NC, WY
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-20. Public Availability of "Inputs to Equations" for Subpart AA

Source	Description of Sources Reviewed	Results
Permits	15 Title V permits (10% of identified sources) from 15 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	From the NEI: • 9 facilities out of 110 reported annual fuel consumption data in lime kilns.[98.276(g), Eqns. C-1, C-1a, C-1b, C-2a, C-3, C-4, C-5, C-8, C-8a, C-8b, C-9a] • 9 facilities out of 110 reported quantity of black liquor solids combusted [98.276(c), Eqn. AA-1 and AA-2] • 1 facility out of 110 reported annual quantity of fossil fuel consumption in chemical recovery furnace [98.276(b) Eqns. C-1, C-1a, C-1b, C-2a, C-3, C-4, C-5, C-8, C-8a, C-8b, C-9a]
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	Pulp and Paper NESHAP • Section 114 responses • Data elements related to fuel use in recovery boilers and lime kilns were requested in the survey, but no information is provided in the docket. Unknown whether data were considered CBI.	No data elements were identified in the docket as being publicly available.
Journals	TAPPI, Pulp and Paper International, Paper Age, Pulp and Paper Week, Paperboard Packaging, Timberline	No data elements were identified as being publicly available.

[1] AR, FL, GA, ID, IL, ME, MI, NC, NY, OH, OK, TX, VA, WI, WV
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-21. Public Availability of "Inputs to Equations" for Subpart BB

Source	Description of Sources Reviewed	Results
Permits	1 Title V permit (100% of identified sources) from 1 state[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	No rule development docket identified	Not applicable.
Journals	No trade journals identified	Not applicable.

[1] IL
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-22. Public Availability of "Inputs to Equations" for Subpart CC

Source	Description of Sources Reviewed	Results
Permits	3 Title V permits from 1 state[1]	The Title V permit review package for these three permits contains 2006 and 2007 stack test results that provide information on 1 data element that is the same as an input: • stack gas volumetric flow rate during performance tests for each line or stack [98.296(b)(10)(i), eq. CC-3]
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	No rule development docket identified	Not applicable.
Journals	No trade journals identified	Not applicable.

[1] Only 3 affected facilities and all of them are located in WY
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-23. Public Availability of "Inputs to Equations" for Subpart EE

Source	Description of Sources Reviewed	Results
Permits	4 Title V permits (50% of identified sources) from 2 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	No rule development docket identified	Not applicable.
Journals	No trade journals identified	Not applicable.

[1] OH, MS. Facilities located in other states do not have TV permits available online.
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-24. Public Availability of "Inputs to Equations" for Subpart GG

Source	Description of Sources Reviewed	Results
Permits	1 Title V permit (20% of identified sources) from 1 state[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available in facilities matched between the GHGRP and NEI.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	• NESHAP for Area Sources: Polyvinyl Chloride and Copolymers Production, Primary Copper Smelting, Secondary Copper Smelting, and Primary Nonferrous Metals-- Zinc, Cadmium, and Beryllium (EPA-HQ-OAR-2006-0510) • NESHAP: Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries (EPA-HQ-OAR-2008-0236)	No information found in either docket.
Journals	No trade journals identified	Not applicable.

[1] IL
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-25. Public Availability of "Inputs to Equations" for Subpart II

Source	Description of Sources Reviewed	Results
Permits	12 Title V permit from 8 states[1]	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	Online inventory databases for The Climate Registry, Western Climate Initiative, Regional Greenhouse Gas Initiative, and 18 states that have or were considering mandatory reporting programs[2]	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	No rule development docket identified	Not applicable.
Journals	Water & Wastes Digest, JAWMA, Waste Management, Waste & Recycling News, Waste Age, Water Science & Technology, Water and Environmental Management, American Water Works Association Journal, Pumps & Systems	No data elements were identified as being publicly available.

[1] Reviewed the following potentially affected facilities: 4 paper mills in AR, FL, VA, WA; 3 refineries in AR, CO, IN; 3 ethanol plants in IA, IN, SD, and 2 food processing plants in AR and IN.
[2] CA, CT, CO, DE, FL, HI, IA, MA, MD, ME, NC, NJ, NM, NV, OR, WA, WI, WV

Table B-26. Public Availability of "Inputs to Equations" for Subpart TT

Source	Description of Sources Reviewed	Results
Permits	Reviewed 7 paper mill permits in AR, FL, GA, ID, ME, VA, and WI and reviewed 3 food processing plant permits in AR, IN, and WI.	No data elements were identified as being publicly available.
NEI/Federal databases	NEI, CAMD, eGRID, TRI, DOE/EIA, and OECA ECHO databases	No data elements were identified as being publicly available.
State/Regional databases	3 state agencies (CA, CO, WI) publish annual tonnage reports. Part 98 requires historical disposal records. States publish only the past 10 to 25 years online.	No data elements were identified as being publicly available.
Rule dockets (MACT/NSPS)	No rule development docket identified	Not applicable.
Journals	No trade journals identified	Not applicable.

Appendix C
Review of Sources Cited By Sierra Club that Provide Publicly Available Information for the 2015 Data Inputs

Review of Sources Cited By Sierra Club that Provide Publicly Available Information for the 2015 Data Inputs

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
C	98.36(b)(9)(iii)	Estimate of heat input	Ex. C1 (Spreadsheet). Worksheet "Process Data Organics Testing" Column M.	Survey response	Example where sources have reported this information previously.	Y	N	Data available on a one-time basis. Survey response is daily average heat input (MMBtu/hr) for a 30 day period that includes a testing period for ICR data collection, not annual input. Data source is evaluated in the public availability analysis. See Appendix B.
C	98.36(c)(2)(i)(x)	An estimate of the heat input from each type of fuel	Ex. C1 (Spreadsheet). Worksheet "Process Data Organics Testing" Column M.	Survey response	Example where sources have reported this information previously.	N	N	Data available on a one-time basis. Survey response is daily average heat input (MMBtu/hr) for a 30 day period that includes a testing period for ICR data collection, not annual input.
C	98.36(e)(2)(i)	Total quantity of each type of fuel combusted	Ex. C3, p. vii.	U.S. Department of Energy Energy Information Administration Form EIA-767 (2005), STEAM-ELECTRIC PLANT OPERATION AND DESIGN REPORT	Common reporting requirement in all permits.	Y	N	Data available only for electric power plants with capacity >1MW, and connected to power grid. Data source is evaluated in the public availability analysis. See Appendix B.
C	98.36(e)(2)(ii)(A)	Total monthly quantity of each type of fuel combusted	Ex. C3, p. vii.	U.S. Department of Energy Energy Information Administration Form EIA-767 (2005), STEAM-ELECTRIC	Common reporting requirement in all permits.	Y	N	Data available only for electric power plants with capacity >1MW, and connected to power grid. Data source is evaluated in the public availability analysis. See Appendix B.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
				PLANT OPERATION AND DESIGN REPORT				
C	98.36(e)(2)(ii)(C)	Monthly high heat values used in the CO_2 emissions calculations for each type of fuel combusted	Ex. C3, p. vii.; See also p. xxii.	U.S. Department of Energy Energy Information Administration Form EIA-767 (2005), STEAM-ELECTRIC PLANT OPERATION AND DESIGN REPORT	Heating values for common fuels are available in standard reference.	Y	N	Data available only for electric power plants with capacity >1MW, and connected to power grid. Data source is evaluated in the public availability analysis. See Appendix B.
C			Ex. C4.	Survey response	Heating values for common fuels are available in standard reference.	N	N	Data available on a one-time basis. Survey response is daily Higher Heating Value (HHV) (as received) reported for ICR three day period. Not an exact match for monthly HHV values.
C	98.36(e)(2)(ii)(D)	Total quantity (i.e., pounds) of steam produced from MSW or solid fuel combustion during the year,	Ex. C1 (Spreadsheet). Worksheet "Process Data Organics Testing" Column N.	Survey response		N	N	Data available on a one-time basis. Survey response is Steam Output (1,000 lbs steam/hr) hourly average for a 30 day period for ICR data collection, not annual quantity.
C	98.36(e)(2)(ii)(D)	Ratio of the maximum rate heat input capacity to the design rated steam output capacity of the unit	None cited	Not provided	Arithmetic calculation.	N	N	Not found to be publicly available.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
C	98.36(e)(2)(iv)(A)	Quantity of each type of fuel combusted during each month	Ex. C1 (Spreadsheet). Worksheet "Process Data Organics Testing" Column C.	Survey response	Previously reported.	N	N	Data available on a one-time basis. Fuel consumption reported for one 30 day period for ICR data collection, not quantity each month.
C	98.36(e)(2)(iv)(A)		Ex. C-3.	U.S. Department of Energy Energy Information Administration Form EIA-767 (2005), STEAM-ELECTRIC PLANT OPERATION AND DESIGN REPORT	Previously reported.	Y	N	Data available only for electric power plants with capacity >1MW, and connected to power grid. Data source is evaluated in the public availability analysis. See Appendix B.
C	98.36(e)(2)(iv)(C)	ALL The carbon content used in the emission calculations (including both valid and substitute data values).	See http://bioenergy.ornl.gov/papers/misc/energy_conv.html	website	Carbon content for most fuels are available in standard references.	N	N	Average carbon content of fossil fuels and bioenergy feedstocks are available, but individual reporters' values are not available.
C	98.36(e)(2)(iv)(C)	ALL gas molecular weight values used in the emission calculations (including both valid and substitute data values).	See http://www.engineeringtoolbox.com/molecular-weight-gas-vapor-d_1156.html	website	Gas molecular weights are available in standard references.	N	N	Reference contains molecular weight of pure fuels; does not take into account additives or impurities found in facility specific fuels. Information not publicly available for all molecular weight values used.
C	98.36(e)(2)(iv)(C)	Monthly average values for carbon content used in the emission calculations (including both valid and substitute data values).	See http://bioenergy.ornl.gov/papers/misc/energy_conv.html	website	Carbon content for most fuels are available in standard references.	N	N	Average carbon content of fossil fuels and bioenergy feedstocks are available, but individual reporters' monthly average values are not available.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
C	98.36(e)(2)(iv)(C)	Monthly average values for gas molecular weight values used in the emission calculations (including both valid and substitute data values).	See http://www.engineeringtoolbox.com/molecular-weight-gas-vapor-d_1156.html	website	Gas molecular weights are available in standard references.	N	N	Reference contains molecular weight of pure fuels; does not take into account additives or impurities found in facility specific fuels. Information not publicly available for monthly average value.
C	98.36(e)(2)(iv)(F)	The annual average measured HHV data used to calculate CH_4 and N_2O emissions	No reference provided	Not provided	HHV data for common fuels are available in standard references.	Y	N	Default HHV values are available; measured HHV data are not publicly available. Data source is evaluated in the public availability analysis. See Appendix B.
C	98.36(e)(2)(ix)(D)	Carbon-based F-factor used in Equation C-13 of this subpart for each fossil fuel	Ex. C4., EPA Method 19	Survey response	Available in regulations as provided in the equation.	N	N	Carbon based F-factor not available in referenced document on a facility/site-specific basis.
C	98.36(e)(2)(ix)(E)	Annual average HHV value used in Equation C-13 of this subpart for each fossil fuel	No reference provided	Not provided	Arithmetic calculation.	N	N	Facility specific annual average HHV not available. Average could only be determined if individual values reported.
C	98.36(e)(2)(ix)(F)	Total quantity of fossil fuel combusted during the reporting year	No reference provided	Not provided	Arithmetic calculation.	N	N	No specific reference provided. Total could only be determined if individual values reported.
C	98.36(e)(2)(x)(A)	Results of each quarterly sample analysis	Ex. C1 (Spreadsheet). Worksheet "Process Data Organics Testing" Column C.	Survey response	Fuel composition is already being reported.	N	N	Data available on a one-time basis. Survey response in column C is coal firing rate (tons/hr). Not a match for quarterly sample analysis. HHV analyses available in survey for a three day period.
C			Ex. C-3 US DOE/EIA Form EIA-767	U.S. Department of Energy Energy Information	Fuel composition is already being reported.	Y	N	Data available only for electric power plants with capacity >1MW, and connected to power grid. Data source is evaluated in the public availability analysis. See Appendix B.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
				Administration Form EIA-767 (2005), STEAM-ELECTRIC PLANT OPERATION AND DESIGN REPORT				
C	98.36(e)(2)(xi) 98.36(e)(2)(xi)	Results of each quarterly sample analysis Results of quarterly sample analysis	Ex. C1 (Spreadsheet). Worksheet "Process Data Organics Testing" Column C.	Survey response	Fuel composition is already being reported.	N	N	Data available on a one-time basis. Survey response in column C is coal firing rate (tons/hr). Not a match for quarterly sample analysis. HHV analyses available in survey for a three day period.
			Ex. C-3 US DOE/EIA Form EIA-767	U.S. Department of Energy Energy Information Administration Form EIA-767 (2005), STEAM-ELECTRIC PLANT OPERATION AND DESIGN REPORT	Fuel composition is already being reported.	N	N	Data available only for electric power plants with capacity >1MW, and connected to power grid. Data source is evaluated in the public availability analysis. See Appendix B.
H	98.86(b)(2)	Monthly clinker production (No CEMS)	Ex. CEM1: Holcim Romania paper 2002, p.23	Romanian study paper titled "JI - Project for reduction of CO_2 emissions at Alesd Cement Plant and Campulung Cement Plant"	Can be calculated or estimated from cement production by assuming typical factor or by direct measurement. Reported in Europe.	N	N	Monthly clinker production not available. This report does not contain actual clinker production for the 2 Romanian facilities (only daily capacities).

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
H	98.86(b)(5)	Quarterly quantity of CKD not recycled to the kiln	Ex. CEM6: Ashgrove Durkee (example) EPA-HQ-OAR-2002-0051-3572, p.4	Section 114 request for Ash Grove Cement Company's facility in Durkee, OR; document located in docket for Portland Cement Manufacturing NESHAP (A-92-53)	Similar to previously reported by companies as part of NESHAP ICR.	N	N	Data available on a one-time basis. Survey response is annual baghouse return dust for one year. Does not provide exact match to quarterly CKD recycled to the kiln.
H	98.86(b)(6)	Monthly fraction of total CaO in clinker	Ex. CEM1: Holcim Romania paper 2002, p.26	Romanian study paper titled "JI - Project for reduction of CO_2 emissions at Alesd Cement Plant and Campulung Cement Plant"	Essentially annual average reported and in public domain.	N	N	Monthly fraction of total CaO in clinker not available. The typical percent CaO from clinker for year 2000 provided for each of the Romanian facilities [pg. 26].
H	98.86(b)(6)	Monthly fraction of total MgO in clinker	Ex. CEM1: Holcim Romania paper 2002, p.26	Romanian study paper titled "JI - Project for reduction of CO_2 emissions at Alesd Cement Plant and Campulung Cement Plant"	Essentially annual average reported and in public domain.	N	N	Monthly fraction of total MgO in clinker not available. The typical percent MgO from clinker for year 2000 is provided for each of the Romanian facilities [pg. 26].

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
H	98.86(b)(6)	Monthly fraction of non-calcined CaO in clinker	Ex. CEM1: Holcim Romania paper 2002, p.26	Romanian study paper titled "JI - Project for reduction of CO_2 emissions at Alesd Cement Plant and Campulung Cement Plant"	Essentially annual average reported and in public domain.	N	N	Monthly fraction of non-calcined CaO in clinker not available. The typical percent CaO from clinker for year 2000 is provided for each of the Romanian facilities [pg. 26].
H	98.86(b)(6)	Monthly fraction of non-calcined MgO in clinker	Ex. CEM1: Holcim Romania paper 2002, p.26	Romanian study paper titled "JI - Project for reduction of CO_2 emissions at Alesd Cement Plant and Campulung Cement Plant"	Essentially annual average reported and in public domain.	N	N	Monthly fraction of non-calcined MgO in clinker not available. The typical percent CaO from clinker for year 2000 is provided for each of the Romanian facilities [pg. 26].
H	98.86(b)(8)	Quarterly fraction of total CaO in CKD not recycled to the kiln	Ex. CEM7: Prof. Walsh Powerpoint, Dalhousie University	PowerPoint slides titled "Investigation into the Use of CKD for Wastewater Treatment"; Presented at Portland Cement Association's Manufacturing Technical Committee Meeting by M.E. Walsh and C.B. Lake, Dept. of Civil & Resource	Already reported and in public domain.	N	N	Data available on a one-time basis, not a quarterly analysis. Reference contains the CaO content typical of CKD samples from 6 facilities [pg. 19]; Includes previously published work from Peethamparan et al., 2008 with CaO content (wt %) of 4 CKD samples (no sample locations provided) [pg. 20], and Todres et al., 1992 with CaO content (wt %) of 3 CKD samples (no sample locations provided) [pg. 21].Does not indicate if it is recycled to kiln.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
				Engineering, Dalhousie University (Nova Scotia, Canada)				
H	98.86(b)(8)	Quarterly fraction of total MgO in CKD not recycled to the kiln	Ex. CEM7: Prof. Walsh Powerpoint, Dalhousie University	PowerPoint slides titled "Investigation into the Use of CKD for Wastewater Treatment"; Presented at Portland Cement Association's Manufacturing Technical Committee Meeting by M.E. Walsh and C.B. Lake, Dept. of Civil & Resource Engineering, Dalhousie University (Nova Scotia, Canada)	Already reported and in public domain.	N	N	Data available on a one-time basis, not a quarterly analysis. MgO content (wt %) of CKD samples from 6 facilities [pg. 19]; Includes previously published work from Peethamparan et al., 2008 with MgO content (wt %) of 4 CKD samples (no sample locations provided) [pg. 20], and Todres et al., 1992 with MgO content (wt %) of 3 CKD samples (no sample locations provided) [pg. 21].Does not indicate if it is recycled to kiln.
H	98.86(b)(8)	Quarterly fraction of non-calcined CaO in CKD not recycled to the kiln	Ex. CEM7: Prof. Walsh Powerpoint, Dalhousie University	PowerPoint slides titled "Investigation into the Use of CKD for Wastewater Treatment"; Presented at Portland Cement Association's Manufacturing	Already reported and in public domain.	N	N	Data available on a one-time basis, not a quarterly analysis. MgO content (wt %) of CKD samples from 6 facilities [pg. 19]; Includes previously published work from Peethamparan et al., 2008 with MgO content (wt %) of 4 CKD samples (no sample locations provided) [pg. 20], and Todres et al., 1992 with MgO content (wt %) of 3 CKD samples (no sample locations provided) [pg. 21].Does not indicate if it is recycled to kiln.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
				Technical Committee Meeting by M.E. Walsh and C.B. Lake, Dept. of Civil & Resource Engineering, Dalhousie University (Nova Scotia, Canada)				
H	98.86(b)(8)	Quarterly fraction of non-calcined MgO in CKD not recycled to the kiln	Ex. CEM7: Prof. Walsh Powerpoint, Dalhousie University	PowerPoint slides titled "Investigation into the Use of CKD for Wastewater Treatment"; Presented at Portland Cement Association's Manufacturing Technical Committee Meeting by M.E. Walsh and C.B. Lake, Dept. of Civil & Resource Engineering, Dalhousie University (Nova Scotia, Canada)	Already reported and in public domain.	N	N	Data available on a one-time basis, not a quarterly analysis. MgO content (wt %) of CKD samples from 6 facilities [pg. 19]; Includes previously published work from Peethamparan et al., 2008 with MgO content (wt %) of 4 CKD samples (no sample locations provided) [pg. 20], and Todres et al., 1992 with MgO content (wt %) of 3 CKD samples (no sample locations provided) [pg. 21]. Does not indicate if it is recycled to kiln.
H	98.86(b)(10)	Monthly kiln-specific clinker CO_2 emission factors	None cited	Not provided	CO2 data is from CEMS and is therefore emissions. Production data from recordkeeping.	No data provided	N	Not found to be publicly available.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
H	98.86(b)(11)	Quarterly kiln-specific CKD CO_2 emission factors	None cited	Not provided	CO2 data is from CEMS and is therefore emissions. Production data from recordkeeping.	no data provided	N	Not found to be publicly available.
H	98.86(b)(12)	Annual organic carbon content of each raw kiln feed or annual organic carbon content of each raw material	Ex. CEM6: Ashgrove Durkee (example) EPA-HQ-OAR-2002-0051-3572, last several pages.	Section 114 request for Ash Grove Cement Company's facility in Durkee, OR; document located in docket for Portland Cement Manufacturing NESHAP (A-92-53)	Previously reported by companies as part of NESHAPs ICR.	Y	N	Data available on a one-time basis. Survey response is total organic carbon content (in ppm) of raw materials (limestone, shale, clay, iron) from daily sampling in 2006 and 2007 (30 samples total); Return dust carbon content (in ppm) also provided for 2006 only (30 samples total) [pgs. 13-16]. Data source is evaluated in the public availability analysis. See Appendix B.
H	98.86(b)(13)	Annual consumption of each raw kiln feed or annual consumption of each raw materials	Ex. CEM6: Ashgrove Durkee (example) EPA-HQ-OAR-2002-0051-3572, p.4	Section 114 request for Ash Grove Cement Company's facility in Durkee, OR; document located in docket for Portland Cement Manufacturing NESHAP (A-92-53)	Previously reported by companies as part of NESHAPs ICR.	Y	N	Data available on a one-time basis. Survey response is 2006 usage of raw materials [limestone, shale, clay, slag (iron source)] in tons [pg. 4]. Data source is evaluated in the public availability analysis. See Appendix B.
H	98.86(b)(15)	Monthly kiln-specific clinker factors (if used) for each kiln	Ex. CEM1: Holcim Romania paper 2002, p.23	Romanian study paper titled "JI - Project for reduction of CO_2 emissions	Reported previously for kilns in Europe.	N	N	Monthly kiln-specific clinker factors not available. A single clinker factor is provided for each of the Romanian facilities [pg. 23].

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
				at Alesd Cement Plant and Campulung Cement Plant"				
Q	98.176(b)	Annual production quantity for products	Ex. S1: EPA-HQ-OAR-2004-008-0058 Nucor Plymouth, p. 8/86 (pdf). Ex. S2, p.2/76 (pdf).	Stack test results and associated requirements for Title V operation permit for Nucor Steel (PO box 100, West Cemetery Road, Plymouth UT 84330),	Previously publicly reported.	Y	N	Data available on a one-time basis. Stack testing is required for the ferroalloy industry as an initial requirement under the NSPS and MACT standards. Test results provide annual amount of scrap charged for previous three years. No requirement for annual production data to be reported. Data source is evaluated in the public availability analysis. See Appendix B.
				Survey Response	Previously publicly reported.	Y	N	Data available on a one-time basis. Survey response includes total production of raw steel for 2003 in tons, hourly production rate for each baghouse. Submitted as part of Section 114 request, available in Docket: EPA-HQ-OAR-2004-0083. Data source is evaluated in the public availability analysis. See Appendix B.
Q	98.176(e)(1)	Carbon content of process inputs to determine CO_2 emissions	Material safety data sheet (MSDS) (did not offer a specific MSDS as an example, but referred to MSDS for coal or coke)	Material safety data sheet (MSDS)	Generally known (for coal, pet coke, scrap, iron ore, limestone, fluxes, etc.) from MSDSs.	N	N	Carbon content of all process inputs is not available. An MSDS lists typical material composition for materials by percent weight. Compositional information on hazardous components are required, reporting the % of other components is voluntary.

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Q	98.176(e)(1)	Carbon content of process outputs to determine CO_2 emissions	Material safety data sheet (MSDS) (did not offer a specific sheet as an example)	Material safety data sheet (MSDS)	Generally known (for steels, slag, etc.). From MSDSs.	N	N	Carbon content of all process outputs is not available. An MSDS list typical material composition for products by percent weight. Compositional information on hazardous components are required, reporting the % of other components is voluntary.
Q	98.176(e)(3)	Annual volume of each type of gaseous fuel used to determine CO_2 emissions (reported separately for each type in standard cubic feet)	Utility bills	Not provided	Known from utility bills, for example.	N	N	Annual volume of gaseous fuel to the facility (not by process as required in Part 98) will be available on utility bills. Utility bills are not generally publicly available.
Q	98.176(e)(3)	Annual volume of each type of liquid fuel used to determine CO_2 emissions (reported separately for each type in gallons)	Utility bills	Not provided	Known from utility bills, for example.	N	N	Volume of liquid fuel by process is not available. Annual volume of liquid fuel to the facility will be available on supplier bills, however these bills are not generally publicly available.
Q	98.176(e)(3)	Annual mass (in metric tons) of **each** all other process inputs and outputs used to determine CO 2 emissions	None	Not provided	This is too general. No need for lesser contributing inputs and outputs for the mass balance.	N	N	Not found to be publicly available.
Q	98.176(e)(4)	Molecular weight of gaseous fuels	None	Not provided	Basic chemistry	N	N	Molecular weight of pure gaseous fuels is basic chemistry, and can easily be found in reference materials. However, composition of specific fuels used by the facility are not available.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
Q	98.176(f)(1)	Measured average hourly CO_2 emission rate during the test	None	Not provided	Direct Emissions Data.	N	N	Not found to be publicly available.
Q	98.176(f)(2)	Average hourly feed or production rate	Ex. S1: EPA-HQ-OAR-2004-008-0058 Nucor Plymouth, p. 8/86 (pdf).	Stack test results	Previously publicly reported.	Y	N	Data available on a one-time basis. Stack testing is required for the ferroalloy industry as an initial requirement under the NSPS and MACT standards. Test results provide average hourly feed rate during the test. Data source is evaluated in the public availability analysis. See Appendix B.
Q	98.176(f)(3)	Site-specific emission factor	None	Not provided	Derived from calculation using data above and below.	N	N	Data elements cited by commenter that are required to perform this calculation are not publicly available.
Q	98.176(f)(4)	Annual feed or production rate used to estimate annual CO_2 emissions	Ex. S1: EPA-HQ-OAR-2004-008-0058 Nucor Plymouth, p. 8/86 (pdf).	Stack test results	Previously publicly reported.	N	N	Data available on a one-time basis. Stack testing is required for the ferroalloy industry as an initial requirement under the NSPS and MACT standards. Test results provide annual amount of scrap charged for previous three years. No requirement for annual production data to be reported.
Q	98.176(g)	The annual amount of coal charged to the coke ovens (in metric tons).	Deliveries	Not provided	Can be ascertained by tracking deliveries (trains, trucks, etc. and by making reasonable assumptions).	N	N	Not found to be publicly available. Deliveries of coal are not publicly available information.
Q	98.176(h)	For flares burning coke oven gas or blast furnace gas, the information specified in §98.256(e) of subpart Y (Petroleum Refineries) of this part.1	See references at 98.256(e)	See references at 98.256(e)	See refineries.	See 98.256(e)	See 98.256(e)	See 98.256(e)
W	98.236(c)(1)(i)	Actual count of natural gas pneumatic high bleed devices.	National Emission Standards (NESHAP) Subpart HH and NSPS Subpart KKK	Regulation	EPA requires fugitive emissions reporting for the oil and gas industry under the National Emission Standards for Hazardous Air Pollutants	N	N	Subpart HH and KKK require a NOCS (Notification of Compliance Status) report including the count of all ancillary equipment in fugitive emissions program. Natural gas pneumatic high bleed devices are not specifically named

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					(NESHAP), Subpart HH for Oil and Gas and NSPS Subpart KKK for gas processing plants.			in the rule.
W	98.236(c)(1)(i)	Estimated count of natural gas pneumatic high bleed devices.	National Emission Standards (NESHAP) Subpart HH and NSPS Subpart KKK	Regulation	EPA requires fugitive emissions reporting for the oil and gas industry under the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart HH for Oil and Gas and NSPS Subpart KKK for gas processing plants.	N	N	Subpart HH and KKK require a NOCS report including the count of all ancillary equipment in fugitive emissions program. Natural gas pneumatic high bleed devices are not specifically named in the rule.
W	98.236(c)(1)(ii)	Actual count of natural gas pneumatic low bleed devices.	National Emission Standards (NESHAP) Subpart HH and NSPS Subpart KKK	Regulation	EPA requires fugitive emissions reporting for the oil and gas industry under the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart HH for Oil and Gas and NSPS Subpart KKK for gas processing plants.	N	N	Subpart HH and KKK require a NOCS report including the count of all ancillary equipment in fugitive emissions program. Natural gas pneumatic low bleed devices are not specifically named in the rule.
W	98.236(c)(1)(ii)	Estimated count of natural gas pneumatic low bleed devices.	National Emission Standards (NESHAP) Subpart HH and NSPS Subpart KKK	Regulation	EPA requires fugitive emissions reporting for the oil and gas industry under the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart HH for Oil and Gas and NSPS Subpart KKK for gas processing plants.	N	N	Subpart HH and KKK require a NOCS report including the count of all ancillary equipment in fugitive emissions program. Natural gas pneumatic low bleed devices are not specifically named in the rule.
W	98.236(c)(1)(iii)	Actual count of natural gas pneumatic intermittent bleed devices.	National Emission Standards (NESHAP) Subpart HH and NSPS Subpart KKK	Regulation	EPA requires fugitive emissions reporting for the oil and gas industry under the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart HH for Oil and Gas and NSPS Subpart KKK for gas processing plants.	N	N	Subpart HH and KKK require a NOCS report including the count of all ancillary equipment in fugitive emissions program. Natural gas pneumatic intermittent bleed devices are not specifically named in the rule.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
W	98.236(c)(1)(iii)	Estimated count of natural gas pneumatic intermittent bleed devices.	National Emission Standards (NESHAP) Subpart HH and NSPS Subpart KKK	Regulation	EPA requires fugitive emissions reporting for the oil and gas industry under the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart HH for Oil and Gas and NSPS Subpart KKK for gas processing plants.	N	N	Subpart HH and KKK require a NOCS report including the count of all ancillary equipment in fugitive emissions program. Natural gas pneumatic intermittent bleed devices are not specifically named in the rule.
W	98.236(c)(2)(i)	Count of natural gas driven pneumatic pumps.	National Emission Standards (NESHAP) Subpart HH and NSPS Subpart KKK	Regulation	EPA requires fugitive emissions reporting for the oil and gas industry under the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart HH for Oil and Gas and NSPS Subpart KKK for gas processing plants.	N	N	Subpart HH and KKK require a NOCS report including the count of all ancillary equipment in fugitive emissions program. Pumps are listed ancillary equipment, although the specific pump type is not required. Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513		Y	N	Data on natural gas driven pumps is collected by BOEMRE for offshore facilities but not publicly available in the gulfwide inventory. Data element evaluated in public availability analysis, see Appendix B.
W	98.236(c)(3)(i)	Total throughput of each acid gas removal unit using a meter or engineering estimate based on process knowledge or best available data.	Attachment No. 4-1 North Dakota Amine Unit Appl.PDF (PERMIT APPLICATION - NATURAL GAS PROCESSING SWEETENING OPERATIONS, NORTH DAKOTA DEPARTMENT	Operating Permit Applications	Some states require amine unit data to be reported to their department of public health, for example.	N	N	Data reported is design flow rate to the unit, not total actual throughput.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			OF HEALTH DIVISION OF AIR QUALITY)					
			New Source Performance Standard Subpart LL	Regulation	Subpart LL requires reporting for gas sweetening units and sulfur recovery units.	N	N	NSPS subpart LL is Standards of performance for Metallic Mineral Processing Plants and is not applicable to oil and gas.
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513		Y	N	Throughput data is collected but not publicly available in the gulfwide inventory. Data element evaluated in public availability analysis, see Appendix B.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
W	98.236(c)(3)(ii)	For Calculation Methodology 2 of §98.233(d), annual average fraction of CO_2 content in the vent from each acid gas removal unit.	Attachment No. 4-1 North Dakota Amine Unit Appl.PDF (PERMIT APPLICATION - NATURAL GAS PROCESSING SWEETENING OPERATIONS, NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	The CO2 content of the vented gas in not proprietary business data and will not create an economic or strategic disadvantage to a company if disclosed to the public at this time. The CO2 content may be reported to local, state or federal agencies as part of a project description or by permit.	N	N	Permit application requires CO2 concentration. The annual average concentration is not reported.
W	98.236(c)(3)(iii)	For Calculation Methodology 3 of §98.233(d), annual average volume fraction of CO_2 content of natural gas into each acid gas removal unit.	Attachment No. 4-1 North Dakota Amine Unit Appl.PDF (PERMIT APPLICATION - NATURAL GAS PROCESSING SWEETENING OPERATIONS, NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	The CO2 content of the vented gas in not proprietary business data and will not create an economic or strategic disadvantage to a company if disclosed to the public at this time. The CO2 content may be reported to local, state or federal agencies as part of a project description or by permit.	N	N	Permit application requires CO2 concentration. The annual average concentration is not reported.
W	98.236(c)(3)(iv)	Annual quantity of CO_2, that was recovered from each acid gas removal unit and transferred outside the facility (metric tons CO_2e), under subpart PP of this part.	Attachment No. 4-1 North Dakota Amine Unit Appl.PDF (PERMIT APPLICATION - NATURAL GAS PROCESSING SWEETENING OPERATIONS, NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	The CO2 content of the vented gas in not proprietary business data and will not create an economic or strategic disadvantage to a company if disclosed to the public at this time. The CO2 content may be reported to local, state or federal agencies as part of a project description or by permit.	N	N	Permit application does not require reporting of CO2 recovered and transferred.
W	98.236(c)(4)(i)(A)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Glycol	Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Glycol dehydrator feed rate is not required on this report.

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		dehydrator feed natural gas flow rate in MMscfd, determined by engineering estimate based on best available data.	Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Glycol dehydrator feed rate is not required on this report.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Glycol dehydrator feed rate is not required on this report.
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Glycol dehydrator feed rate is not required on this report.
			Attachment No. 2-6 Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control Division)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Form 2000-307 concerns dehydrators. Natural gas flow rate is not required. Data on regenerator heating rate (MMBtu/hr), glycol circulation rate, glycol type, control technology, gas pressure, gas temperature, and gas composition are required.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 requires air emission reporting, including the basis for all calculations.	Y	Y	Total gas throughput is reported. Requires the operator to report a description of processes, processing equipment, combustion equipment, fuels, and storage units. Data element is evaluated in public availability analysis, see Appendix B.
			Attachment No. 5-2 Colorado AirPermitApp.pdf (Operating Permit Application; Colorado Department of Public Health and Environment Air Pollution Control Division)	Operating Permit Applications	Colorado Department of Public Health and Environment, Air Pollution Control Division, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	N	N	Natural gas flow rate is not required in this application. Form 2000-307 concerns dehydrators. Data on regenerator heating rate (MMBtu/hr), glycol circulation rate, glycol type, control technology, gas pressure, gas temperature, and gas composition are required.
			Attachment No. 5-3 North Dakota GlycolDehydratorReport.pdf (PERMIT APPLICATION - GLYCOL DEHYDRATION UNITS NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	N	N	This is a one-time permit application. Actual throughput (design) is required in the permit application, but is not an annual reporting requirement. The permit application requires operators to report the design capacity, actual throughput, and VOC emissions from glycol dehydration units.
W	98.236(c)(4)(i)(B)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Glycol	Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Glycol dehydrator absorbent circulation pump type is not required in the report.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
		dehydrator absorbent circulation pump type.	Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Glycol dehydrator absorbent circulation pump type is not required in the report.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Glycol dehydrator absorbent circulation pump type is not required in the report.
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Glycol dehydrator absorbent circulation pump type is not required in the report.
			Attachment No. 2-6 Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control Division)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Glycol dehydrator absorbent circulation pump type is not required in the permit application. Form 2000-307 concerns dehydrators. Data on regenerator heating rate (MMBtu/hr), glycol circulation rate, glycol type, control technology, gas pressure, gas temperature, and gas composition are required.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 requires air emission reporting, including the basis for all calculations.	N	N	Pump type is not required in the report. Requires the operator to report a description of processes, processing equipment, combustion equipment, fuels, and storage units.
			Attachment No. 5-2 Colorado AirPermitApp.pdf (Operating Permit Application; Colorado Department of Public Health and Environment Air Pollution Control Division)	Operating Permit Applications	Colorado Department of Public Health and Environment, Air Pollution Control Division, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	N	N	Pump type is not required in the permit application. Form 2000-307 concerns dehydrators. Data on regenerator heating rate (MMBtu/hr), glycol circulation rate, glycol type, control technology, gas pressure, gas temperature, and gas composition are required.
			Attachment No. 5-3 North Dakota GlycolDehydratorReport.pdf (PERMIT APPLICATION - GLYCOL DEHYDRATION UNITS NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	N	N	Pump type is not required in the permit application. The permit application requires operators to report the design capacity, actual throughput, and VOC emissions from glycol dehydration units.
W	98.236(c)(4)(i)(C)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Report	Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
		whether stripper gas is used in glycol dehydrator.	Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 2-6 Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control Division)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Stripper gas reporting is not required in the permit application. Form 2000-307 concerns dehydrators. Data on regenerator heating rate (MMBtu/hr), glycol circulation rate, glycol type, control technology, gas pressure, gas temperature, and gas composition are required.

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			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 requires air emission reporting, including the basis for all calculations.	Y	N	Use of stripper gas is reported but not publicly available in the gulfwide inventory. Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 5-2 Colorado AirPermitApp.pdf (Operating Permit Application; Colorado Department of Public Health and Environment Air Pollution Control Division)	Operating Permit Applications	Colorado Department of Public Health and Environment, Air Pollution Control Division, Operating Permit Applications, requires detailed information on gas dehydrator equipment	N	N	The use of stripper gas is not required in the permit application. Form 2000-307 concerns dehydrators. Data on regenerator heating rate (MMBtu/hr), glycol circulation rate, glycol type, control technology, gas pressure, gas temperature, and gas composition are required.
			Attachment No. 5-3 North Dakota GlycolDehydratorReport.pdf (PERMIT APPLICATION - GLYCOL DEHYDRATION UNITS NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas dehydrator equipment	N	N	The use of stripper gas is not required in the permit application. The permit application requires operators to report the design capacity, actual throughput, and VOC emissions from glycol dehydration units.
W	98.236(c)(4)(i)(D)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Report	Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
		whether a flash tank separator is used in glycol dehydrator.	Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 2-6 and Attachment No. 5-2. Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control Division)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	Y	N	Data element is required for Colorado permit applications only and not for a majority of reporters. Form 2000-307 concerns dehydrators. Use of a flash tank is required to be reported. Data element evaluated in public availability analysis, see Appendix B.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 requires air emission reporting, including the basis for all calculations.	Y	N	Use of a flash tank is reported to BOEM but is not publicly available in the gulfwide inventory. Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 5-3 North Dakota GlycolDehydratorReport.pdf (PERMIT APPLICATION - GLYCOL DEHYDRATION UNITS NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	N	N	Use of a flash tank is not reported. The permit application requires operators to report the design capacity, actual throughput, and VOC emissions from glycol dehydration units.
W	98.236(c)(4)(i)(E)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Report type of absorbent.	Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 2-6 and Attachment No. 5-2. Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control Division)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	Y	N	Permit application is for Colorado reporters only and not for a majority of reporters. Form 2000-307 concerns dehydrators. Type of glycol is reported. Data evaluated in public availability analysis, see Appendix B.
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 requires air emission reporting, including the basis for all calculations	N	N	Type of glycol is not reported and is assumed to be TEG (triethylene glycol). Requires the operator to report a description of processes, processing equipment, combustion equipment, fuels, and storage units.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Documents (DOCD)]					
			Attachment No. 5-3 North Dakota GlycolDehydratorReport.pdf (PERMIT APPLICATION - GLYCOL DEHYDRATION UNITS NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	Y	N	Permit application is for North Dakota reporters only and not for a majority of reporters. The permit application appears to require glycol type. It requires operators to report the design capacity, actual throughput, and VOC emissions from glycol dehydration units.
W	98.236(c)(4)(i)(F)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Total time the glycol dehydrator is operating in hours.	Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 2-6 and Attachment No. 5-2. Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control Division)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Form 2000-307 concerns dehydrators. Actual time dehydrator is operated is not reported on this form.
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 requires air emission reporting, including the basis for all calculations.	N	N	Time unit operated is not reported. VOC emissions are estimated based on volume, not time unit was operating.
			Attachment No. 5-3 North Dakota GlycolDehydratorReport.pdf (PERMIT APPLICATION - GLYCOL DEHYDRATION UNITS	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	N	N	Actual time dehydrator is operated annually is not reported on this form. Form requires operators to report the design capacity, actual throughput, and VOC emissions from glycol dehydration units.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)					
W	98.236(c)(4)(i)(G)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Temperature of the wet natural gas (degrees Fahrenheit).	Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 2-6 Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Form 2000-307 concerns dehydrators. Gas temperature is reported, however annual reporting is not required. Design data on regenerator heating rate (MMBtu/hr), glycol circulation rate, glycol type, control technology, gas pressure, gas temperature, and gas composition are required.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Division)					
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 requires air emission reporting, including the basis for all calculations.	Y	N	Wet gas temperature is reported to BOEM, but is not publicly available in the gulfwide inventory. Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 5-2 Colorado AirPermitApp.pdf (Operating Permit Application; Colorado Department of Public Health and Environment Air Pollution Control Division)	Operating Permit Applications	Colorado Department of Public Health and Environment, Air Pollution Control Division, Operating Permit Applications, requires detailed information on gas dehydrator equipment	N	N	Form 2000-307 concerns dehydrators. Annual reporting of gas temperature is not required. Design data on regenerator heating rate (MMBtu/hr), glycol circulation rate, glycol type, control technology, gas pressure, gas temperature, and gas composition are required.
			Attachment No. 5-3 North Dakota GlycolDehydratorReport.pdf (PERMIT APPLICATION - GLYCOL DEHYDRATION UNITS NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	N	N	Gas temperature is not reported. The permit application requires operators to report the design capacity, actual throughput, and VOC emissions from glycol dehydration units.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
W	98.236(c)(4)(i)(G)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Pressure of the wet natural gas (psig).	Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 2-6 and Attachment 5-2. Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control Division)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Gas pressure is reported, annual reporting is not required. Form 2000-307 concerns dehydrators. Application requires design data on regenerator heating rate (MMBtu/hr), glycol circulation rate, glycol type, control technology, gas pressure, gas temperature, and gas composition are required.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 requires air emission reporting, including the basis for all calculations.	Y	N	Pressure of gas is reported. Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 5-3 North Dakota GlycolDehydratorReport.pdf (PERMIT APPLICATION - GLYCOL DEHYDRATION UNITS NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	N	N	Gas pressure is not reported. The permit application requires operators to report the design capacity, actual throughput, and VOC emissions from glycol dehydration units.
W	98.236(c)(4)(i)(H)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd: Concentration of CO_2 in wet natural gas.	Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 2-6 Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control Division)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Gas inlet composition is required for the application, annual reporting not required. Form 2000-307 concerns dehydrators. Design data on regenerator heating rate (MMBtu/hr), glycol circulation rate, glycol type, control technology, gas pressure, gas temperature, and gas composition are required.
			Attachment No. 2-9 BLM TestData.pdf (Title 43: Public Lands: Interior; PART 3160—ONSHORE OIL AND GAS OPERATIONS; Subpart 3162—Requirements for Operating Rights Owners and Operators)	eCFR; BLM Regulations at 43 CFR 3162.4-1	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	Y	B	Gas composition test results are required during well drilling and completing, and periodic testing is required. No indication that data is recurring or collected in a database that is publicly available. Data element evaluated in public availability analysis, see Appendix B.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 requires air emission reporting, including the basis for all calculations.	N	N	Gas composition is not reported in the referenced document. A surrogate gas analysis is used for the estimates.
			Attachment No. 5-2 Colorado AirPermitApp.pdf (Operating Permit Application; Colorado Department of Public Health and Environment Air Pollution Control Division)	Operating Permit Applications	Colorado Department of Public Health and Environment, Air Pollution Control Division, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	N	N	Gas inlet composition is required for the application, annual reporting not required. Form 2000-307 concerns dehydrators. Application requires design data on regenerator heating rate (MMBtu/hr), glycol circulation rate, glycol type, control technology, gas pressure, gas temperature, and gas composition are required.
			Attachment No. 5-3 North Dakota GlycolDehydratorReport.pdf (PERMIT APPLICATION - GLYCOL DEHYDRATION UNITS NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	N	N	Gas composition is not required in the permit application. The permit application requires operators to report the design capacity, actual throughput, and VOC emissions from glycol dehydration units.
W	98.236(c)(4)(i)(H)	For each glycol dehydrator with throughput greater than or equal to 0.4 MMscfd:	Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
		Concentration of CH_4 in wet natural gas.	Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 2-6 and Attachment 5-2. Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control Division)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Application is for Colorado reporters only. Gas inlet composition is required for the application, annual reporting not required. Form 2000-307 concerns dehydrators. Permit application requires data on regenerator heating rate (MMBtu/hr), glycol circulation rate, glycol type, control technology, gas pressure, gas temperature, and gas composition are required.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 requires air emission reporting, including the basis for all calculations.	N	N	Gas composition is not reported. A surrogate gas analysis is used for the estimates.
			Attachment No. 5-3 North Dakota GlycolDehydratorReport.pdf (PERMIT APPLICATION - GLYCOL DEHYDRATION UNITS NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	N	N	Gas composition is not required. The permit application requires operators to report the design capacity, actual throughput, and VOC emissions from glycol dehydration units.
W	98.236(c)(4)(ii)(A)	For all glycol dehydrator with throughput less than 0.4 MMscfd: Count of glycol dehydrators.	Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	Glycol dehydrator venting data is typically reported to an air permitting authority or included in the gas disposition reports.	N	N	Report does not collect information on glycol dehydrators.
			Attachment No. 2-6 and Attachment 5-2. Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control Division)	Operating Permit Applications	Colorado Department of Public Health and Environment, Air Pollution Control Division, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	Y	N	Permit application is for Colorado reporters only and not for a majority of reporters. Form 2000-307 concerns dehydrators. Each glycol dehydrator is permitted. Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 requires air emission reporting, including the basis for all calculations.	Y	N	Number of glycol dehydrators is reported but not available for a majority of reporters. Data element evaluated in public availability analysis, see Appendix B.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Documents (DOCD)]					
			Attachment No. 5-3 North Dakota GlycolDehydratorReport.pdf (PERMIT APPLICATION - GLYCOL DEHYDRATION UNITS NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas dehydrator equipment.	Y	N	Permit application is for North Dakota reporters only and not for a majority of reporters. Data on all glycol dehydrators is reported. Data element evaluated in public availability analysis, see Appendix B.
W	98.236(c)(6)(i)(B)	For well completions and 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 completion (cubic feet per hour).	Attachment No. 2-4 ADNR WellReporting.pdf (State of Alaska DNR, Division of Oil and Gas, Well Data Submittal Requirement January 2011)	Reporting requirements	Alaska Department of Natural Resources (ADNR) requires well record and completion reporting, including casing size, flow rates and records of stimulation and workover activities and information on oil and gas composition.	N	N	Reporting requirements for numerous parameters, including production tests, but does not specifically include measured flow rate of backflow during well completion.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
W	98.236(c)(6)(i)(E)	For well completions and 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 completions.	Attachment No. 2-3 NYS DrillingCompletionReport.pdf (NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF MINERAL RESOURCES, BUREAU OF OIL AND GAS REGULATION WELL DRILLING AND COMPLETION REPORT)	Report Form	New York State Department of Environmental Conservation (NYSDEC) requires well record and completion reporting, including casing size, flow rates and records of stimulation and workover Activities.	N	N	Report requires the dates drilling commenced, completed and final completion / recompletion dates. Does not require number of days of backflow.
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 require reporting of well completion operations.	N	N	Number of days of backflow not specifically required.
			Attachment No. 7-1 Wyoming Well Completion Report.pdf (WY - EXAMPLE WELL COMPLETIONS ("GREEN COMPLETIONS") PERMIT – March 2010)	example Permit	Wyoming requires detailed information on well venting and a "green completions" permit (Attachment No. 7-1), including records identifying and summarizing total volumes of hydrocarbon liquids (bbls) and natural gas (MMCF) recovered (flared, vented, stored in tanks, pits, trucks or other containment, or sold to	N	N	Total number of days of backflow not specifically required. Report requires total emissions during well completion and completion start and end date.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
					gathering lines, storage or containment vessels or trucks) from the well bore during completion/re-completion activities, maintained on a per well basis.			
W	98.236(c)(6)(ii)(A)	For well completions and workovers without hydraulic fracturing, report the following for each sub-basin and well type (horizontal or vertical) combination: Total count of completions in calendar year.	Attachment No. 2-1 TRRC DrillingCompletion Report.pdf (RAILROAD COMMISSION OF TEXAS Summary of Drilling, Completion and Plugging Reports Processed January 2009)	Monthly Summary Report	Texas Rail Road Commission (TRRC), Summary of Drilling, Completion and Plugging Reports showing that operators report drilling and completion activity data.	N	N	Number of completions reported monthly rather than annual and may not report specific data information.
			Attachment No. 2-2 PA DrillingCompletionReportingReq.pdf (State of Pennsylvania Well Reporting Rule)	Reporting Rule	Pennsylvania Department of Environmental Quality (DEQ) requires well record and completion reporting, including casing size, flow rates and records of stimulation and workover activities. See 25 PA Code Chapter 78 (§§78.121 Annual Production Report -78.122 Well Record and Completion Report)	Y	N	Well completions are reported and not for a majority of reporters.
			Attachment No. 2-3 NYS DrillingCompletionReport.pdf (NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF MINERAL RESOURCES, BUREAU OF	Report Form	New York State Department of Environmental Conservation (NYSDEC) requires well record and completion reporting, including casing size, flow rates and records of stimulation and workover	Y	N	Well completions are reported and not for a majority of reporters.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			OIL AND GAS REGULATION WELL DRILLING AND COMPLETION REPORT)		activities.			
			Attachment No. 2-4 ADNR WellReporting.pdf (State of Alaska DNR, Division of Oil and Gas, Well Data Submittal Requirement January 2011)	Report form	Alaska Department of Natural Resources (ADNR) requires well record and completion reporting, including casing size, flow rates and records of stimulation and workover activities and information on oil and gas composition.	Y	N	Well completions are reported and not for a majority of reporters.
			Attachment No. 2-7 BOEMRE DrillComplReportReq.pdf (Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart E—Oil and Gas Well-Completion Operations)	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE Regulations at 30 CFR 250.513 require reporting of well completion operations.	Y	N	Well completions are reported to BOEM but are not publicly available in the gulfwide inventory. Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 2-8 BLM DrillComplReport.pdf (Title 43: Public Lands: Interior; PART 3160—ONSHORE OIL AND GAS OPERATIONS; Subpart 3162—Requirements for Operating Rights Owners and Operators)	eCFR; BLM Regulations at 43 CFR 3162.4-1	BLM Regulations at 43 CFR 3162.4-1 require reporting of well completion operations.	Y	N	Well completions are reported but not on a recurring basis and no information data is for a majority of reporters.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 2-10 API Quarterly WellCompletionReportAd.pdf (API product description)	website	The American Petroleum Institute (API) compiles and reports publically available data on well completion activity in its Quarterly Well Completion Report.	Y	N	No indication information is from recurring activity. Information on reported drilling activity, as well as estimates of the total number of wells and footage drilled for the current and recent quarters Data element evaluated in public availability analysis, see Appendix B.
W	98.236(c)(6)(ii)(B)	For well completions and workovers without 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.	Attachment No. 1-8 MMS CFR FuelFlareReporting.pdf (Bureau of Ocean Energy Management (BOEMRE) reporting rule)	eCFR; title 30, Part 250. Subpart K; 250.1163		N	N	Records must be maintained of reason gas is flared or vented. Reporting not required.
			Attachment No. 7-1 Wyoming Well Completion Report.pdf (WY - EXAMPLE WELL COMPLETIONS ("GREEN COMPLETIONS") PERMIT – March 2010)	Report	Wyoming requires detailed information on well venting and a "green completions" permit.	N	N	Total count of workovers is not required, however recordkeeping is required for cause of flaring or venting.
			Attachment No. 7-2 TRCC GasVentReport.pdf (STATEWIDE RULE 32 EXCEPTION DATA SHEET)	Regulation	Texas Rail Road Commission (TRRC), requires detailed information on well venting and flaring.	N	N	Permit must be obtained prior to venting or flaring gas and reason must be given. Total count by reason is not reported, however the data could be extracted from this information reported.
W	98.236(c)(7)(i)(A)	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	Attachment No. 1-10 Wyoming BlowdownVent Permit.pdf (STATE OF WYOMING, Department of Environmental Quality - Air Quality Division, Blowdown/Venting Permit Application)	Blowdown/Venting Permit Application	Wyoming requires details information on blowdown and other gas venting.	N	N	Emissions must be calculated for each blowdown event, however only summary of vented emissions are reported.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
		calendar year. (when using Eq. W-14A)						
W	98.236(c)(8)(i)(F)	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.	Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on tanks.	N	N	Permit does not include information for volume of oil from separators.
W	98.236(c)(8)(i)(K)	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 CO_2 gas quantities that were recovered (metric tons CO_2e), for all wellhead gas-liquid separators or storage tanks using Calculation Methodology 1 of §98.233(j).	Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on tanks.	N	N	Permit requires information on fate of tank gas emissions, but does not require annual reporting of CO2 recovery.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
W	98.236(c)(8)(ii)(A)	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).	Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Gas disposition report	Gas disposition reports state whether the gas was produced and sold, used as fuel, flared or vented. There are different royalty and tax treatments for various gas disposition methods. And, in some states flared and vented gases must pay additional emission fees. Gas disposition data is publically available, and may only be held confidential on an exploration well.	Y	N	Volumes transported off-site are reported and not for a majority of reporters. Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Gas disposition report		Y	N	Total volume of oil is reported and not for a majority of reporters. Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Gas disposition report		Y	N	Total volume of oil is reported by company and region and not for a majority of reporters. Summary reports available. Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 1-11 and 1-12 U.S. Department of Energy, Energy Information Administration (EIA) gas disposition reporting			N	N	Aggregated data is published, not totals by company and sub-basin.
W	98.236(c)(8)(iii)(A)	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	Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on tanks.	N	N	The number of wellhead separators is not reported.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
		CFR 98.233: Number of wellhead separators.	Attachment No. 2-6 Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control Division)	Operating Permit Applications	Colorado Department of Public Health and Environment, Air Pollution Control Division, Operating Permit Applications, requires detailed information on tank equipment.	N	N	All tanks must be listed if greater than 500 gallons or have daily throughput greater than 25 gallons The tank may not be specifically identified as a wellhead separator. Form 2000-301 concerns storage tanks. Material stored is reported. Information on tank dimensions and material throughput (gal/yr) is required.
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE regulations at 30 CFR 250.513 requires air emission reporting, including the basis for all calculations, including tank emissions.	Y	N	Information for each vessel is reported into EPA's GOADS (Gulfwide Offshore Activities Data System) system and compiled into the gulfwide inventory. No information on data element is included in the gulfwide inventory. Data source is evaluated in the public availability analysis. See Appendix B.
			Attachment No. 6-1 Colorado AirPermitApp.pdf (Operating Permit Application Colorado Department of Public Health and Environment Air Pollution Control Division)	Operating Permit Applications	Colorado Department of Public Health and Environment, Air Pollution Control Division, Operating Permit Applications, requires detailed information on tank equipment.	N	N	Form 2000-301 concerns storage tanks. All tanks must be listed if greater than 500 gallons or have daily throughput greater than 25 gallons. Material stored is reported. The tank may not be specifically identified as a wellhead separator. Information on tank dimensions and material throughput (gal/yr) is required.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 6-3 North Dakota TankReporting.pdf [PERMIT APPLICATION - VOLATILE ORGANIC COMPOUNDS STORAGE TANK; NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY SFN 8535 (12-05) (AP-112)]	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on tanks.	N	N	The permit application may not identify the tank specifically as a wellhead separator. Permit application requires data on tank capacity, dimensions, type of roof, type of seal, and vapor disposal (vented to atmosphere, vapor recovery unit, flare, or other). Also required is data on type of liquid stored, its vapor pressure, the average throughput, average turnovers per year, and tank emissions.
			40 CFR 112 Spill Prevention, Control and Countermeasure Plan	Regulation	EPA requires reporting of tank specification information in a facility's Spill Prevention, Control and Countermeasure (SPCC) plan (40 CFR 112).	Y	N	Not recurring. Regulation requires a plan be developed and submitted for most facilities. Must contain a list of all oil containing tanks above 55 gallons.
W	98.236(c)(12)(ii)	For flare stacks: Volume of gas sent to flare (cubic feet per year).	Attachment No. 1-1 TRRC O&G Reporting Requirements.pdf (Texas Rail Road Commission (TRRC) production statistics website)	Instruction for online data reporting	TRRC requires reporting of fuel, flare, and vented gas.	N	N	The data element reported is combined volume of gas vented or flared, not volume of gas sent to the flare.
			Attachment No. 1-2 TRRC Gas Flared Vented Report.pdf (Texas Rail Road Commission (TRRC), Oil and Gas Production Report Instructions)	Online Summary Report	TRRC produces a report that includes the amount of flared and vented gas.	N	N	The data element reported is combined volume of gas vented or flared, not volume of gas sent to the flare. (annual aggregate number for state).

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 1-4 Alaska 2004_Gas_Disposition_Final.pdf (Alaska Oil and Gas Conservation Commission (AOGCC) 2004 Annual Report on Gas Disposition)	Annual Summary Report	AOGCC requires operators to report gas disposition on a monthly basis, including information on the amount of gas used for fuel, flare, vented or used for pilot/purge.	N	N	The data element reported is combined volume of gas vented or flared, not volume of gas sent to the flare.
			Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	State of Utah Department of Natural Resources, Division of Oil, Gas and Mining, requires monthly gas disposition report information on the amount of gas used for fuel, flare, or vented.	N	N	The data element reported is combined volume of gas vented or flared, not volume of gas sent to the flare.
			Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	State of Louisiana Office of Conservation requires monthly gas disposition report information on the amount of gas used for fuel, flare, or vented.	Y	N	Recurring data element for Louisiana reporters only. Reported data is volume vented (system flare) Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Alaska Department of Revenue (ADOR) requires operators to report gas disposition on a monthly basis, including information on the amount of gas used for fuel, flare, vented or used for pilot/purge.	Y	N	Recurring data element for Alaska reporters only. Total flare volumes (MCF). Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 1-8 MMS CFR FuelFlareReporting.pdf (Bureau of Ocean Energy Management (BOEMRE) reporting rule)	eCFR; title 30, Part 250. Subpart K; 250.1163	BOEMRE requires operators to report gas disposition to its offshore emission tracking system GOADS and under the reporting requirements of 30 CFR 250.1163.	Y	N	Data element for Gulf offshore facilities is required to be reported to BOEM, but information is not available in the gulfwide inventory for a majority of sources. Amount of gas flared and the amount of gas vented separately. Data element evaluated in public availability analysis, see Appendix B.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas disposition and composition.	N	N	Data element reported is volume of gas flared, estimate amount Mcf/day. Does not require reporting of flare volume on an annual basis.
			Attachment No. 4-1 North Dakota Amine Unit Appl.PDF (PERMIT APPLICATION - NATURAL GAS PROCESSING SWEETENING OPERATIONS, NORTH DAKOTA DEPARTMENT OF HEALTH DIVISION OF AIR QUALITY)	Operating Permit Applications		N	N	Average acid gas flow rate to flare is reported. Does not require reporting of flare volume on an annual basis.
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513		Y	N	Data element for Gulf offshore facilities is required to be reported to BOEM, but information is not available in the gulfwide inventory for a majority of sources. Volume of gas flared is reported. Data element evaluated in public availability analysis, see Appendix B.
			Attachment No. 7-2 TRCC GasVentReport.pdf (STATEWIDE RULE 32 EXCEPTION DATA SHEET)	Report Form		Y	N	Exception data sheet for gas venting. The type and amount of gas released, and if it is flared or vented. Data element evaluated in public availability analysis, see Appendix B.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 8-2 TRRC MonthlyProductionReport.pdf (TRCC: INSTRUCTIONS FORM PR: MONTHLY PRODUCTION REPORT)	Reporting instructions		N	N	Volumes vented or flared have same code and are not differentiated.
W	98.236(c)(12)(v)	For flare stacks: Flare combustion efficiency.	Attachment No. 1-1 TRRC O&G Reporting Requirements.pdf (Texas Rail Road Commission (TRRC) production statistics website)	Instruction for online data reporting	TRRC requires reporting of fuel, flare, and vented gas.	N	N	Combustion efficiency not reported. The data element reported is combined volume of gas vented or flared.
			Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	State of Utah Department of Natural Resources, Division of Oil, Gas and Mining, requires monthly gas disposition report information on the amount of gas used for fuel, flare, or vented.	N	N	Combustion efficiency not reported. The data element reported is combined volume of gas vented or flared.
			Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	State of Louisiana Office of Conservation requires monthly gas disposition report information on the amount of gas used for fuel, flare, or vented.	N	N	Combustion efficiency not reported. Data element reported is volume of gas vented to system flare.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Alaska Department of Revenue (ADOR) requires operators to report gas disposition on a monthly basis, including information on the amount of gas used for fuel, flare, vented or used for pilot/purge.	N	N	Combustion efficiency not reported. Data element reported is total flare volumes.
			Attachment No. 2-6 Colorado AirPermitApp.PDF (Operating Permit Application, Colorado Department of Public Health and Environment, Air Pollution Control	Operating Permit Applications		Y	N	Combustion efficiency is required for Colorado reporters only. Form 2000-403 concerns control equipment; specifically, thermal oxidation. Data on inlet concentration, outlet concentration and control efficiency is required.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Division)					
			Attachment No. 5-1 BOEMRE Air EmissionReporting.pdf [Title 30: Mineral Resources; PART 250—OIL AND GAS AND SULPHUR OPERATIONS IN THE OUTER CONTINENTAL SHELF; Subpart B—Plans and Information; Contents of Development and Production Plans (DPP) and Development Operations Coordination Documents (DOCD)]	eCFR; BOEMRE Regulations at 30 CFR 250.513	BOEMRE requires operators to report gas disposition to its offshore emission tracking system GOADS and under the reporting requirements of 30 CFR 250.1163.	N	N	Data on control efficiency of a flare is collected through GOADS and compiled in the gulfwide inventory. However, inventory does not show reports for data element.
W	98.236(c)(13)(v)(A)	For centrifugal compressors in onshore petroleum and natural gas production: Count of compressors.	Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas disposition and composition.	N	N	Data element is only for compressors whose collective HP rating exceeds 500 HP), centrifugal and reciprocating not reported separately.
W	98.236(c)(14)(v)(A)	For reciprocating compressors in onshore petroleum and natural gas production: Count of compressors.	Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas disposition and composition.	N	N	Data element is only for compressors whose collective HP rating exceeds 500 HP), centrifugal and reciprocating not reported separately.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
W	98.236(c)(19)(iv)	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.	Attachment No. 1-1 TRRC O&G Reporting Requirements.pdf (Texas Rail Road Commission (TRRC) production statistics website)	Instruction for online data reporting	TRRC requires reporting of fuel, flare, and vented gas.	N	N	Data element reported is gas used or given to others for field operations, or fuel. Size of combustion unit not specified.
			Attachment No. 1-3 TAC Producer reporting requirements.	Title 34, Part 1 chapter 3, subchapter B, Rule 3.17; Tax Administration Natural Gas	TAC requires reporting of production used by the operator for lease operations.	N	N	Data element reported is gas used or given to others for field operations, or fuel. Size of combustion unit not specified.
			Attachment No. 1-4 Alaska 2004_Gas_Disposition_Final.pdf (Alaska Oil and Gas Conservation Commission (AOGCC) 2004 Annual Report on Gas Disposition)	Annual Summary Report	AOGCC requires operators to report gas disposition on a monthly basis, including information on the amount of gas used for fuel, flare, vented or used for pilot/purge.	N	N	The data element in report is volume of gas used for fuel. Size of combustion unit not specified.
			Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	State of Utah Department of Natural Resources, Division of Oil, Gas and Mining, requires monthly gas disposition report information on the amount of gas used for fuel, flare, or vented.	N	N	The data element in report is volume of gas used on-site. Size of combustion unit not specified.
			Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	State of Louisiana Office of Conservation requires monthly gas disposition report information on the amount of gas used for fuel, flare, or vented.	N	N	The data element reported is the volume of gas in MCF used in field operations . Size of combustion unit not specified.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Alaska Department of Revenue (ADOR) requires operators to report gas disposition on a monthly basis, including information on the amount of gas used for fuel, flare, vented or used for pilot/purge.	N	N	The data element reported is the volume of gas in MCF used in lease operations. Size of combustion unit not specified.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas disposition and composition.	N	N	The data element reported is the volume of gas in MCF used in lease operations. Size of combustion unit not specified.
			Attachment No. 8-2 TRRC MonthlyProductionReport.pdf (TRCC: INSTRUCTIONS FORM PR: MONTHLY PRODUCTION REPORT)	Reporting instructions		N	N	Data element is gas used as fuel on site. Size of combustion unit not specified.
W	98.236(c)(19)(vii)	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.	Attachment No. 1-1 TRRC O&G Reporting Requirements.pdf (Texas Rail Road Commission (TRRC) production statistics website)	Instruction for online data reporting	TRRC requires reporting of fuel, flare, and vented gas.	N	N	Data element reported is gas used or given to others for field operations, or fuel. Size of combustion unit not specified.
			Attachment No. 1-3 TAC Producer reporting requirements.	Title 34, Part 1 chapter 3, subchapter B, Rule 3.17; Tax Administration Natural Gas	TAC requires reporting of production used by the operator for lease operations.	N	N	Data element reported is gas used or given to others for field operations, or fuel. Size of combustion unit not specified.
			Attachment No. 1-4 Alaska 2004_Gas_Disposition_Final.pdf (Alaska Oil and Gas Conservation Commission (AOGCC) 2004 Annual Report on Gas Disposition)	Annual Summary Report	AOGCC requires operators to report gas disposition on a monthly basis, including information on the amount of gas used for fuel, flare, vented or used for pilot/purge.	N	N	The data element in report is volume of gas used for fuel. Size of combustion unit not specified.
			Attachment No. 1-5 Utah Gas Disposition Report.pdf (State of Utah Monthly Oil and Gas Disposition Report)	Report Form	State of Utah Department of Natural Resources, Division of Oil, Gas and Mining, requires monthly gas disposition report information on the amount of gas used for fuel, flare, or	N	N	The data element in report is volume of gas used on-site. Size of combustion unit not specified.

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					vented.			
			Attachment No. 1-6 Louisiana Gas Disposition Report.pdf (State of Louisiana Monthly Oil and Gas Disposition Report)	Report Form	State of Louisiana Office of Conservation requires monthly gas disposition report information on the amount of gas used for fuel, flare, or vented.	N	N	The data element reported is the volume of gas in MCF used in field operations . Size of combustion unit not specified.
			Attachment No. 1-7 Alaska Gas Disposition Reporting.xls (Alaska Department of Revenue (ADOR) AS 43.55 Monthly Information Report)	Report Form	Alaska Department of Revenue (ADOR) requires operators to report gas disposition on a monthly basis, including information on the amount of gas used for fuel, flare, vented or used for pilot/purge.	N	N	The data element reported is the volume of gas in MCF used in lease operations . Size of combustion unit not specified.
			Attachment No. 1-9 North Dakota Gas and Composition.pdf (OIL/GAS PRODUCTION FACILITY REGISTRATION, NORTH DAKOTA DEPARTMENT OF HEALTH, DIVISION OF AIR QUALITY)	Operating Permit Applications	North Dakota Department of Public Health, Division of Air Quality, Operating Permit Applications, requires detailed information on gas disposition and composition.	N	N	The data element reported is the volume of gas in MCF used in lease operations. Size of combustion unit not specified.
			Attachment No. 1-11 U.S. Department of Energy, Energy Information Administration Monthly Natural Gas Production Report	Report form Instruction	U.S. Department of Energy, Energy Information Administration (EIA) requires detailed monthly gas disposition reporting and annual gas disposition reporting.	N	N	The data element reported is the volume of gas used in lease operations. Size of combustion unit not specified.

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			Attachment No. 8-2 TRRC MonthlyProductionReport.pdf (TRCC: INSTRUCTIONS FORM PR: MONTHLY PRODUCTION REPORT)	Reporting instructions	Texas Rail Road Commission requires a monthly production report.	N	N	Data element reported is gas used or given to others for field operations, or fuel. Size of combustion unit not specified.
Y	98.256(e)(6)	If using Equation Y-1a: report the molar volume conversion factor (in scf/g-mole) for each flare.	None	constant	Some of the deferred elements are simply constant conversion factors that would not vary from facility to facility.	Y	Y	Constant is available. MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 pounds per square inch absolute (psia) or 836.6 scf/kg-mole at 60 °F and 14.7 psia).
Y	98.256(e)(7)	If using Equation Y-1b: report molar volume conversion factor for each flare.	None	constant	Some of the deferred elements are simply constant conversion factors that would not vary from facility to facility.	Y	Y	Constant is available. MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 pounds per square inch absolute (psia) or 836.6 scf/kg-mole at 60 °F and 14.7 psia).
Y	98.256(e)(7)(ii)	If using Equation Y-1b: report the carbon mole number of each carbon containing compound other than CO_2 in the flare gas stream for each flare.	Ex. R2: BAAQMD (Bay Area Air Quality Management District) Regulation 12, Rule 11, 401.2. See http://hank.baaqmd.gov/enf/flares/	Local Rule on performance standards, includes Flare Data Reporting Requirements.		N	N	Reference requires monitoring and reporting of total hydrocarbon, methane and sulfur. GC monitors that provide information on composition are optional. Data element is not the same information.

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Y	98.256(e)(9)	Annual volume of flare gas combusted during normal operations	*Ex. R2: BAAQMD Regulation 12, Rule 11, 401.1.* Ex. R3: See http://hank.baaqmd.gov/enf/flares/	Local Rule on performance standards, includes Flare Data Reporting Requirements.	Publicly available - see for example the monthly flare reports submitted by the Bay Area refineries.	Y	N	Data available for Bay Area reporters only and not for a majority of reporters. Website referenced provides detailed flare volume information for operations at all times (normal and events). To obtain annual volume, reader would need to summarize.
Y	98.256(e)(9)	Annual average higher heating value of the flare gas	*Ex. R2: BAAQMD Regulation 12, Rule 11, 401.9.*	Local Rule on performance standards, includes Flare Data Reporting Requirements.	Similar information (lower heating value) is publicly available.	N	N	Data available does not provide HHV of flare gas; methane, non-methane hydrocarbon and sulfur analyses are required.
Y	98.256(e)(9)	Volume of gas flared during SSM event	*Ex. R3: See http://hank.baaqmd.gov/enf/flares/*	Bay Area Air Quality Management District website	Publicly available - see for example the monthly flare reports submitted by the Bay Area refineries.	Y	N	Data available for Bay Area reporters only and not for a majority of reporters. Website referenced provides detailed flare volume information for operations at all times (normal and events). To obtain annual volume, reader would need to summarize.
Y	98.256(e)(9)	Average molecular weight	*Ex. R3: See http://hank.baaqmd.gov/enf/flares/*	Bay Area Air Quality Management District website	Publicly available - see for example the monthly flare reports submitted by the Bay Area refineries.	N	N	Data available does not include average molecular weight. Data available includes vent gas flow rate, estimated emissions for methane, Non-methane hydrocarbons (NMHC), and Sulfur Dioxide.

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Y	98.256(e)(9)	Carbon content of the flare gas	No reference	No document	Publicly available - see for example the monthly flare reports submitted by the Bay Area refineries.	N	N	Data available does not include carbon content of the gas. Data available includes vent gas flow rate, estimated emissions for methane, NMHC, and Sulfur Dioxide.
Y	98.256(e)(9)	If using Equation Y-3: report the molar volume conversion factor for each flare.	No reference	No document	Some of the deferred elements are simply constant conversion factors that would not vary from facility to facility.	Y	Y	Constant is available. MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 pounds per square inch absolute (psia) or 836.6 scf/kg-mole at 60 °F and 14.7 psia).
Y	98.256(e)(10)	Fraction of carbon in the flare gas contributed by methane (used in Equation Y-4)	Ex. R2: BAAQMD Regulation 12, Rule 11, 401.2. See http://hank.baaqmd.gov/enf/flares/.	Local Rule on performance standards, includes Flare Data Reporting Requirements.	Can be calculated from composition data.	N	N	Although not an exact match for the reported data element, the methane content of flare gas is publicly available for Bay Area reporters only. BAAQMD rule requires methane, non-methane hydrocarbon and sulfur analyses.
Y	98.256(f)(7)	If using Equation Y-6: report the molar volume conversion factor.	No reference	No document	Some of the deferred elements are simply constant conversion factors that would not vary from facility to facility.	Y	Y	Constant is available. MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 pounds per square inch absolute (psia) or 836.6 scf/kg-mole at 60 °F and 14.7 psia).

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Y	98.256(f)(10)	Coke burn-off factor	Ex. R4, p.400 BAAQMD Major Facility Review Permit; Chevron Products Company	Draft Permit	Title V recordkeeping requirement.	N	N	Requirement is for Bay Area reporters only and not for a majority of reporters. Permit requires recordkeeping of coke burn-off rate. No indication that the coke burn-off factor is routinely reported.
Y	98.256(f)(10)	Annual throughput of unit	Ex. R5, p.6 Chevron Richmond Analysis, CBE Comments on Chevron 1/25/08 FEIR Part 1. Refinery Feedstock Switch.	Response to comments	Publicly available via other permit reporting requirements.	N	N	Document is a onetime report. Data available in this document is actual average throughput.
Y	98.256(f)(10)	Average carbon content of coke	No specific reference provided	Not Applicable	Default provided.	N	N	Data available is a default carbon content, not actual plant values.
Y	98.256(f)(11)	Units of measure for the unit-specific CH_4 emission factor	No specific reference provided	No document	Not business sensitive.	N	N	This is a unit of measure associated with the actual value.
Y	98.256(f)(11)	Activity data for calculating emissions	Not provided	No document	Too general.	N	N	Not found to be publicly available.
Y	98.256(f)(11)	If you use a unit-specific emission factor for CH_4: report the unit-specific emission factor for CH_4 each catalytic cracking units, traditional fluid coking units, and catalytic reforming units	Not provided	No document	Calculated value.	N	N	Not found to be publicly available.
Y	98.256(f)(12)	If a unit-specific emission factor for N_2O was used: report the unit-specific emission factor for N_2O each catalytic cracking units,	Not provided	No document	Calculated value.	N	N	Not found to be publicly available.

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		traditional fluid coking units, and catalytic reforming units						
Y	98.256(f)(12)	Units of measure for the unit-specific N_2O emission factor	No specific reference provided	No document	Not business sensitive.	N	N	This is a unit of measure associated with the actual value.
Y	98.256(f)(12)	Activity data for calculating emissions	No specific reference provided	No document	Not business sensitive.	N	N	Not found to be publicly available.
Y	98.256(f)(13)	Average carbon content of coke	Not provided	No document	Generally well known within a range.	N	N	Data available is a default carbon content, not actual plant values.
Y	98.256(h)(4)	If Equation Y-12 is used: Annual volumetric flow to the sulfur recovery plant	No specific reference listed for this item. Ex. R4 Chevron Richmond Permit reviewed	Permit	Title V permits.	N	N	Permit from BAAQMD provided for Chevron did not specify reporting of flow to sulfur recovery plant.
Y	98.256(h)(4)	If Equation Y-12 is used: report the molar volume conversion factor			Some of the deferred elements are simply constant conversion factors that would not vary from facility to facility.	Y	Y	Constant is available. MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 pounds per square inch absolute (psia) or 836.6 scf/kg-mole at 60 °F and 14.7 psia).
Y	98.256(h)(4)	If Equation Y-12 is used: Annual average mole fraction of carbon in the sour gas	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(h)(5)	Value of the correction	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(h)(5)	Annual volume of recycled tail gas (if used to calculate recycling correction factor)	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.

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					estimates.			
Y	98.256(h)(5)	Annual average mole fraction of carbon in the tail gas (if used to calculate recycling correction factor)	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(i)(5)	If you use Eq. Y-13, report the annual mass of green coke fed to the for each coke calcining unit	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(i)(5)	If you use Eq. Y-13, report the carbon content of green coke fed to the for each coke calcining unit	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Environmental Management, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(i)(5)	If you use Eq. Y-13, report the annual mass of marketable coke produced for each coke calcining unit	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(i)(5)	If you use Eq. Y-13, report the carbon content of marketable coke produced for each coke calcining unit	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimate, Ritter et al s*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(i)(5)	If Equation Y-13 used for coke calcining units: report the annual mass of coke dust removed from the process through collected in dust	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.

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		collection systems						
Y	98.256(i)(7)	For coke calcining: The unit-specific CH_4 emission factor	No specific reference provided	No document	Calculated value.	N	N	Not found to be publicly available.
Y	98.256(i)(7)	For coke calcining: Units of measure for the unit-specific CH_4 emission factor	No specific reference provided	No document	Not business sensitive.	N	N	This data element is a unit of measure.
Y	98.256(i)(7)	For coke calcining: Activity data for calculating emissions	No specific reference provided	No document	Not business sensitive.	N	N	Not found to be publicly available.
Y	98.256(i)(8)	For coke calcining: If a unit specific emission factor was used for the N_2O factor: report the units of measure for the unit-specific factor	No specific reference provided	No document		N	N	This data element is a unit of measure.
Y	98.256(i)(8)	For coke calcining: If a unit specific emission factor was used for the N_2O factor: report the activity data used for calculating emissions	No specific reference provided	No document	Not business sensitive.	N	N	Not found to be publicly available.
Y	98.256(i)(8)	For coke calcining: If a unit-specific emission factor for N_2O was used, report the site-specific emission factor	No specific reference provided	No document	Not business sensitive.	N	N	Not found to be publicly available.
Y	98.256(j)(2)	Quantity of asphalt blown for each for each asphalt blowing unit	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine. org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.

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					estimates.			
Y	98.256(j)(2)	Quantity of asphalt blown for each for each asphalt blowing unit	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(j)(2)	Quantity of asphalt blown for each for each asphalt blowing unit	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(j)(2)	Quantity of asphalt blown for each for each asphalt blowing unit	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(j)(2)	Quantity of asphalt blown for each for each asphalt blowing unit	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(j)(5)	CO_2 emission factor for each asphalt blowing unit	No specific reference provided	No document	Calculated value.	N	N	Not found to be publicly available.
Y	98.256(j)(6)	CH_4 emission factor for each asphalt blowing unit	No specific reference provided	No document	Calculated value.	N	N	Not found to be publicly available.
Y	98.256(j)(7)	If Equation Y-16 is used: report the carbon emission factor	No specific reference provided	No document	Calculated value.	N	N	Not found to be publicly available.
Y	98.256(j)(8)	If Equation Y-16b is used: report the CO_2 emission factor used	No specific reference provided	No document	Calculated value.	N	N	Not found to be publicly available.

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Y	98.256(j)(8)	If Equation Y-16b is used: report the carbon emission factor	No specific reference provided	No document	Calculated value.	N	N	Not found to be publicly available.
Y	98.256(j)(9)	If you use Eq. Y-17: CH_4 emission factor	No specific reference provided	No document	Calculated value.	N	N	Not found to be publicly available.
Y	98.256(k)(3)	For delayed coking units: Dimensions of coke drum or vessel	No specific reference provided	No document	Publicly reported as modeling input.	N	N	Not found to be publicly available.
Y	98.256(k)(3)	For delayed coking units: Typical gauge pressure of the coking drum when first vented to the atmosphere	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(k)(3)	For delayed coking units: Typical void fraction of coke drum or vessel	No specific reference provided	No document	Default suggested.	N	N	Not found to be publicly available.
Y	98.256(k)(3)	For delayed coking units: Annual number of coke-cutting cycles of coke drum or vessel	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available. Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(k)(3)	For delayed coking units: report the molar volume conversion factor for each coke drum or vessel.	No specific reference provided	No document	Constant.	Y	Y	Constant is available. MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 pounds per square inch absolute (psia) or 836.6 scf/kg-mole at 60 °F and 14.7 psia).
Y	98.256(k)(4)	For delayed coking units: Height and diameter of the coke drums	No specific reference provided	No document	Publicly reported as modeling input.	N	N	Not found to be publicly available.
Y	98.256(k)(4)	For delayed coking units: Cumulative number of vessel openings for all delayed coking drums in the set	No specific reference provided. Ex. R4 reviewed.	No document	Title V permits.	N	N	Data collection is required for Bay Area reporters only No document. BAAQMD Regulation 8, rule 10 requires monitoring of vessel openings. Recordkeeping requirement. No reporting requirement.

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Y	98.256(k)(4)	For delayed coking units: Typical venting pressure	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(k)(4)	For delayed coking units: Void fraction	No specific reference provided	No document	Default suggested.	N	N	Not found to be publicly available.
Y	98.256(k)(4)	For delayed coking units: Mole fraction of methane in coking gas	No specific reference provided	No document	Default suggested.	N	N	Not found to be publicly available.
Y	98.256(l)(5)	For each process vent: Molar volume conversion factor	No reference	No document	Some of the deferred elements are simply constant conversion factors that would not vary from facility to facility.	Y	Y	Constant available. MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 pounds per square inch absolute (psia) or 836.6 scf/kg-mole at 60 °F and 14.7 psia).
Y	98.256(m)(3)	Uncontrolled blowdown systems reporting under 98.253 (k): Total quantity of crude oil plus the quantity of intermediate products received from off-site that are processed at the facility in the reporting year	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Reference provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(m)(3)	Uncontrolled blowdown systems reporting under 98.253 (k): CH_4 emission factor used	No specific reference provided	No document	Default suggested.	N	N	Not found to be publicly available.
Y	98.256(m)(3)	Uncontrolled blowdown systems reporting under 98.253 (k): Molar volume conversion factor	No specific reference provided	No document	Constant.	Y	Y	Constant available. MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 pounds per square inch absolute (psia) or 836.6 scf/kg-mole at 60 °F and 14.7 psia).

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Y	98.256(n)(3)	For equipment leaks: Number of each type of emission source listed in Equation Y-21 (if using Eq. Y-21)	No specific reference provided	Article; cepmagazine.org	Publicly available in Title V permits.	Y	N	Title V permits require reporting of number of specific types of components on a one-time basis. Data source is evaluated in the public availability analysis. See Appendix B.
Y	98.256(o)(2)(ii)	Total quantity of crude oil plus the quantity of intermediate products received from off-site that are processed at the facility in the reporting year	*R6: Ritter et al paper*	Article; cepmagazineorg	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available.
Y	98.256(o)(4)(ii)	For storage tanks that process unstabilized crude oil: Quantity of unstabilized crude oil received during the calendar year	*R6: Ritter et al paper*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available.
Y	98.256(o)(4)(iii)	For storage tanks that process unstabilized crude oil: Average pressure differential	*R6: Ritter et al paper*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Not found to be publicly available.
Y	98.256(o)(4)(iv)	For storage tanks that process unstabilized crude oil: Molar volume conversion factor	No specific reference provided	No document	Constant.	Y	Y	Constant available: MVC = Molar volume conversion factor (849.5 scf/kg-mole at 68 °F and 14.7 pounds per square inch absolute (psia) or 836.6 scf/kg-mole at 60 °F and 14.7 psia).
Y	98.256(o)(4)(v)	For storage tanks that process unstabilized crude oil: Average Mole fraction of CH_4 in vent gas from the unstabilized crude oil storage tanks	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	No specific reference provided.

Subpart	Reporting Section	Data Element	Reference Cited by Commenter	Type of Document	Commenter Justification for Why Data is Publicly Available	Is Available Data Exactly the Same as GHGRP Data Element?	Is Data Element Publicly Available Recurring for Majority of Reporters	Evaluation of Data Element Presented in Reference
Y	98.256(o)(4)(vi)	If you did not use Equation Y-23: report the tank-specific methane composition data used to estimate cumulative CH_4 emissions for storage tanks used to process unstabilized crude oil.	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(o)(4)(vi)	If you did not use Equation Y-23: report the gas generation rate data used to estimate cumulative CH_4 emissions for storage tanks used to process unstabilized crude oil.	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(o)(6)	Quantity of unstabilized crude oil received during the calendar year	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(o)(6)	Average pressure differential	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.
Y	98.256(o)(6)	Mole fraction of CH_4 in vent gas from the unstabilized crude oil storage tank	No specific reference provided	No document	Default suggested.	N	N	Not found to be publicly available.
Y	98.256(o)(7)	Tank-specific methane composition data	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions	N	N	Provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.

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					estimates.			
Y	98.256(o)(7)	Gas generation rate data	No specific reference provided	No document	Emissions.	N	N	Not found to be publicly available.
Y	98.256(p)(2)	For loading operations: Quantity of materials loaded by vessel type that have an equilibrium vapor-phase concentration of CH_4 of 0.5 volume percent or greater	*R6: Ensuring Consistent Greenhouse Gas Emissions Estimates, Ritter et al*	Article; cepmagazine.org	Data elements that are important for the estimation and verification of emissions are equally as important as the calculated emissions estimates.	N	N	Provides general statements on reporting and calculation of GHGs and example calculations for two theoretical sources.