6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 98

[EPA-HQ-OAR-2015-0526; FRL-9934-93-OAR]

RIN 2060-AS60

2015 Revisions and Confidentiality Determinations for Data Elements under the Greenhouse Gas Reporting Rule

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule; grant of reconsideration.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to amend specific provisions in the Greenhouse Gas Reporting Rule to streamline and improve implementation of the rule, to improve the quality and consistency of the data collected under the rule, and to clarify or provide minor updates to certain provisions that have been the subject of questions from reporting entities. This action also proposes confidentiality determinations for the reporting of certain data elements to the program. This action also proposes action in response to a petition to reconsider specific aspects of the Greenhouse Gas Reporting Rule.

DATES: Comments must be received on or before **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

Public hearing. The EPA does not plan to conduct a public hearing unless requested. To request a hearing, please contact the person listed in the following **FOR FURTHER INFORMATION CONTACT** section by **[INSERT DATE 5 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. If requested, the hearing will be conducted on **[INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE**

FEDERAL REGISTER], in the Washington, DC area. The EPA will provide further information about the hearing on its Web site (http://www.epa.gov/ghgreporting/index.html) if a hearing is requested.

ADDRESSES: Submit your comments, identified by Docket ID No. **EPA-HQ-OAR-2015-0526**, to the *Federal eRulemaking Portal:* http://www.regulations.gov. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or withdrawn. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit http://www2.epa.gov/dockets/commenting-epa-dockets.

FOR FURTHER INFORMATION CONTACT: Carole Cook, Climate Change Division, Office of Atmospheric Programs (MC-6207J), Environmental Protection Agency, 1200 Pennsylvania Ave., NW, Washington, DC 20460; telephone number: (202) 343-9263; fax number: (202) 343-2342; email address: GHGReporting@epa.gov. Alternatively, you may contact the Greenhouse Gas Reporting Rule Helpline at: http://www.epa.gov/climatechange/emissions/ghgrule_contactus.htm or Carole Cook at 202–343–9263.

Worldwide Web (WWW). In addition to being available in the docket, an electronic copy of today's proposal will also be available through the WWW. Following the Administrator's signature, a copy of this action will be posted on the EPA's Greenhouse Gas Reporting Rule website at http://www.epa.gov/ghgreporting.

SUPPLEMENTARY INFORMATION: Regulated entities. These proposed revisions affect entities that must submit annual greenhouse gas (GHG) reports under the Greenhouse Gas Reporting Program (GHGRP) (40 CFR part 98). This proposed rule would impose on entities across the U.S. a degree of reporting consistency for Greenhouse Gas Emissions from most sectors of the economy and therefore is "nationally applicable" within the meaning of section 307(b)(1) of the Clean Air Act (CAA). Although the EPA concludes that the rule is nationally applicable, the EPA is also making a determination, for purposes of CAA section 307(b)(1), that this action is of nationwide scope and effect and is based on such a determination. (See CAA section 307(b)(1) (a petition for review may be filed in the United States Court of Appeals for the District of Columbia "if such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination"). Further, the Administrator has determined that rules codified in 40 CFR part 98 are subject to the provisions of Clean Air Act (CAA) section 307(d). See CAA section 307(d)(1)(V) (the provisions of section 307(d) apply to "such other actions as the Administrator may determine"). These are proposed amendments to existing regulations. If finalized, these amended regulations would affect owners or operators of certain suppliers and direct emitters of GHGs. Regulated categories and entities include, but are not limited to, those listed in Table 1 of this preamble:

Table 1. Examples of Affected Entities by Category

Category	NAICS	Examples of affected facilities

Category	NAICS	Examples of affected facilities
General Stationary Fuel Combustion Sources	.....	Facilities operating boilers, process heaters, incinerators, turbines, and internal combustion engines.
	211	Extractors of crude petroleum and natural gas.
	321	Manufacturers of lumber and wood products.
	322	Pulp and paper mills.
	325	Chemical manufacturers.
	324	Petroleum refineries, and manufacturers of coal products.
	316, 326, 339	Manufacturers of rubber and miscellaneous plastic products.
	331	Steel works, blast furnaces.
	332	Electroplating, plating, polishing, anodizing, and coloring.
	336	Manufacturers of motor vehicle parts and accessories.
	221	Electric, gas, and sanitary services.
	622	Health services.
	611	Educational services.
Acid Gas Injection Projects	211111 or 211112	Projects that inject acid gas containing CO_2 underground.
Adipic Acid Production	325199	Adipic acid manufacturing facilities.
Aluminum Production	331312	Primary aluminum production facilities.
Ammonia Manufacturing	325311	Anhydrous and aqueous ammonia manufacturing facilities.
CO_2 Enhanced Oil and Gas Recovery Projects	211	Oil and gas extraction projects using CO_2 enhanced oil and gas recovery.
Electrical Equipment Use	221121	Electric bulk power transmission and control facilities.
Electronics Manufacturing	334111	Microcomputers manufacturing facilities.
	334413	Semiconductor, photovoltaic (solid-state) device manufacturing facilities.
	334419	LCD unit screens manufacturing facilities. MEMS manufacturing facilities.
Geologic Sequestration Sites	N/A	CO_2 geologic sequestration projects.
Glass Production	327211	Flat glass manufacturing facilities.
	327213	Glass container manufacturing facilities.

Category	NAICS	Examples of affected facilities
	327212	Other pressed and blown glass and glassware manufacturing facilities.
HCFC–22 Production and HFC–23 Destruction	325120	Chlorodifluoromethane manufacturing facilities
Hydrogen Production	325120	Hydrogen manufacturing facilities.
Iron and Steel Production	331111	Integrated iron and steel mills, steel companies, sinter plants, blast furnaces, basic oxygen process furnace shops.
Lime Production	327410	Calcium oxide, calcium hydroxide, dolomitic hydrates manufacturing facilities.
Nitric Acid Production	325311	Nitric acid manufacturing facilities.
Petrochemical Production	32511	Ethylene dichloride manufacturing facilities.
	325199	Acrylonitrile, ethylene oxide, methanol manufacturing facilities.
	325110	Ethylene manufacturing facilities.
	325182	Carbon black manufacturing facilities.
Phosphoric Acid Production	325312	Phosphoric acid manufacturing facilities.
Petroleum Refineries	324110	Petroleum refineries.
Pulp and Paper Manufacturing	322110	Pulp mills.
	322121	Paper mills.
	322130	Paperboard mills.
Municipal Solid Waste Landfills	562212	Solid waste landfills.
	221320	Sewage treatment facilities.
Soda Ash Manufacturing	325181	Akalies and chlorine manufacturing facilities.
	212391	Soda ash, natural, mining and/or beneficiation.
Suppliers of Coal Based Liquids Fuels	211111	Coal liquefaction at mine sites.
Suppliers of Petroleum Products	324110	Petroleum refineries.
Suppliers of Natural Gas and NGLs	221210	Natural gas distribution facilities.
	211112	Natural gas liquid extraction facilities.
Suppliers of Industrial Greenhouse Gases	325120	Industrial gas manufacturing facilities.
Suppliers of Carbon Dioxide	325120	Industrial gas manufacturing facilities.
Underground Coal Mines	212113	Underground anthracite coal mining operations.

Category	NAICS	Examples of affected facilities
	212112	Underground bituminous coal mining operations.
Industrial Wastewater Treatment	322110	Pulp mills.
	322121	Paper mills.
	322122	Newsprint mills.
	322130	Paperboard mills.
	311611	Meat processing facilities.
	311411	Frozen fruit, juice, and vegetable manufacturing facilities.
	311421	Fruit and vegetable canning facilities.
	325193	Ethanol manufacturing facilities.
	324110	Petroleum refineries.
Industrial Waste Landfills	562212	Solid waste landfills.
	221320	Sewage treatment facilities.
	322110	Pulp mills.
	322121	Paper mills.
	322122	Newsprint mills.
	322130	Paperboard mills.
	311611	Meat processing facilities.
	311411	Frozen fruit, juice and vegetable manufacturing facilities.
	311421	Fruit and vegetable canning facilities.

Table 1 of this preamble is not intended to be exhaustive, but rather provides a guide for readers regarding facilities likely to be affected by this action. Other types of facilities than those listed in the table could also be subject to reporting requirements. To determine whether you are affected by this action, you should carefully examine the applicability criteria found in 40 CFR part 98, subpart A or the relevant criteria in the sections related to industrial gas suppliers and direct emitters of GHGs. If you have questions regarding the applicability of this action to a particular facility, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section. Many facilities that are affected by 40 CFR part 98 have GHG emissions from multiple source categories listed in Table 1 of this preamble.

Acronyms and Abbreviations. The following acronyms and abbreviations are used in this document.

ASTM	American Society for Testing and Materials
CAA	Clean Air Act
CAS	Chemical Abstracts Service
CBI	confidential business information
CEMS	continuous emission monitoring system
CFR	Code of Federal Regulations
CH_4	methane
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
DE	destruction efficiency
EDC	ethylene dichloride
e-GGRT	electronic Greenhouse Gas Reporting Tool
EF	emission factor
EGU NSPS	Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units
EIA	Energy Information Administration
EO	Executive Order
ER	enhanced oil and gas recovery
EPA	U.S. Environmental Protection Agency
FR	Federal Register
GHG	greenhouse gas
GHGRP	Greenhouse Gas Reporting Program
GWP	Global warming potential
Hg	mercury
HHV	high heat value
ICR	Information Collection Request
IPCC	Intergovernmental Panel on Climate Change
ISBN	International Standard Book Number
IUPAC	International Union of Pure and Applied Chemistry
IVT	Inputs Verification Tool
kg	kilograms
LDC	local distribution company
LNG	liquefied natural gas
mmBtu/hr	million British thermal units per hour
mmcfd	million cubic feet per day
MSHA	Mine Safety and Health Administration
MSW	municipal solid waste
$mtCO_2e$	metric tons of CO_2 equivalents

N_2O	nitrous oxide
NGL	natural gas liquid
NAICS	North American Industry Classification System
OAQPS	Office of Air Quality Planning and Standards
ODS	ozone-depleting substances
OMB	Office of Management and Budget
PRA	Paperwork Reduction Act
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
RFA	Regulatory Flexibility Act
RY	Reporting year
SF6	Sulfur hexafluoride
UIC	Underground Injection Control
U.S.	United States
UMRA	Unfunded Mandates Reform Act of 1995
VCM	vinyl chloride monomer

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J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

I. Background

A. How is this preamble organized?

The first section of this preamble contains background information regarding the origin of the proposed amendments. This section also discusses the EPA's legal authority under the CAA to promulgate (including subsequent amendments to) the Greenhouse Gas Reporting Rule, codified at 40 CFR part 98 (hereinafter referred to as "Part 98") and the EPA's legal authority to make confidentiality determinations for new or revised data elements required by this amendment or for existing data elements for which a confidentiality determination has not previously been proposed. Section I of this preamble also discusses when the proposed amendments would apply and provides additional information regarding materials referenced in this rulemaking. Section II of this preamble describes the types of amendments included in this rulemaking, and includes the rationale for each type of proposed change. Section III of this preamble is organized by Part 98 subpart and contains detailed information on the proposed revisions to each subpart and the rationale for the proposed revisions in each section. Section IV of this preamble discusses the proposed confidentiality determinations for new or substantially revised (*i.e.*, requiring additional or different data to be reported) data reporting elements, as well as proposed confidentiality determinations for certain existing data elements in subparts I, Z, MM, NN, PP, and RR for which the EPA has not previously made a determination or where the EPA has determined that the current determination is no longer appropriate. Section V of this preamble discusses the impacts of the proposed amendments. Finally, section VI of this preamble describes the statutory and executive order requirements applicable to this action.

B. Executive Summary

The GHGRP is a well-known, reliable source for high-quality, timely greenhouse gas emissions data that enables key stakeholders to understand greenhouse gas emissions, identify emission reduction opportunities, and take action. Since the first year of data collection through the GHGRP, the EPA has responded to tens of thousands of questions from reporters, engaged in stakeholder outreach through compliance assistance webinars, solicited feedback via a public testing process to help improve the EPA's electronic Greenhouse Gas Reporting Tool (e-GGRT), and learned about various site specific scenarios via interaction with reporters during the verification of submitted data. Through these extensive outreach efforts, the EPA has improved our understanding of the technical challenges and burden associated with implementation of the Part 98 provisions, as well as issues that may impact the quality of the data received. The proposed changes would amend specific provisions in the Greenhouse Gas Reporting Rule to streamline and improve implementation of the rule, improve the quality and consistency of the data collected under the rule, and clarify or provide minor updates to certain provisions that have been the subject of questions and feedback from reporting entities.

The EPA is proposing amendments that can be categorized as follows:

- Revisions to streamline implementation and reduce burden. These changes reduce or simplify requirements in a manner that would ease burden on reporters and the EPA. The changes would also improve the usefulness of data for the public. Such revisions include revising requirements to focus EPA and reporter resources on relevant data, removing reporting requirements for specific facilities that report little to no emissions, or removing reported data elements that are no longer necessary.
- Amendments to improve quality of data. These amendments are needed to ensure that accurate data are being collected under the rule and would expand monitoring or reporting requirements that are necessary to improve verification and improve the accuracy of data used to inform the Inventory of U.S. Greenhouse Gas Emissions and Sinks (hereafter referred to as the "U.S. GHG Inventory").
- Minor amendments to better reflect industry processes and emissions. Such revisions include amendments to calculation, monitoring, or measurement methods that would

address prior petitioner or commenter concerns (e.g., amendments that provide additional flexibility for facilities or that more accurately reflect industry processes and emissions).

- Minor clarifications and corrections to improve understanding of the rule. Such revisions include the following: corrections to errors in terms and definitions in certain equations; clarifications that provide additional information for reporters to better or more fully understand compliance obligations; changes to correct cross references within and between subparts; and other editorial or harmonizing changes that would improve the public's understanding of the rule.

This action also proposes to establish confidentiality determinations for the reporting of certain data elements added or revised in these proposed amendments, and for certain existing data elements for which no confidentiality determination has been previously proposed.[1] Finally, section III.S of this preamble describes the proposed changes in response to a petition to reconsider specific aspects of subpart HH, which applies to municipal solid waste landfills.

The proposed revisions are anticipated to increase burden for Part 98 reporters in cases where they would expand current applicability, monitoring, or reporting, and are anticipated to decrease burden for reporters in cases where they would streamline Part 98 to remove notification or reporting requirements or simplify the data that must be reported. The estimated incremental change in burden from the proposed amendments to Part 98 includes burden associated with: 1) changes to the reporting requirements by adding, revising, or removing existing reporting requirements; 2) revisions to the applicability of subparts such that additional facilities would be required to report; and 3) additional monitoring requirements for underground coal mines. Many of the amendments that the EPA is proposing in this action are not anticipated to have a significant impact on burden. As discussed in section I.E of this preamble, we are proposing to implement these changes over reporting years 2016, 2017, and 2018 in order to

[1] During the development of Part 98, the EPA received a number of comments from stakeholders regarding their concern that some of the data reported consisted of confidential business information that, if released to the public, would likely harm their competitive position. The EPA has subsequently published a series of notices to establish determinations for the confidentiality status of data required to be reported under the GHGRP (i.e., "confidentiality determinations"). See section IV.A of this preamble for additional information.

stagger the implementation of these changes over time. The burden has subsequently been determined based on when the proposed revisions would be implemented in each year (*e.g.*, the burden for RY2016 only reflects changes to subparts I (Electronics Manufacturing) and HH (Municipal Solid Waste Landfills), and related changes to subpart A (General Provisions)). The EPA determined that one-time implementation costs would apply for certain revisions to applicability and monitoring requirements that would first apply in reporting year (RY) 2017 and RY2018; therefore, we have estimated costs through RY2019 to reflect the subsequent annual costs incurred by industry. As more fully explained in section V of this preamble, the EPA has determined that the total estimated incremental burden associated with all revisions in this proposed rulemaking would be $2,049,478 over the 3 years covered by the proposed rule, with an estimated annual burden of $1,081,830 per year once all changes have been implemented. The incremental implementation costs for each reporting year are summarized in Table 2 of this preamble.

Table 2. Incremental Burden for Reporting Years 2016-2019 ($/year)

Reporting Year	**2016**	**2017**	**2018**	**2019**
Total Annual Cost (all subparts)	$9K	$34K	$2.0M	$1.1M

C. Background on this Proposed Rule

The GHG Reporting Rule was published in the Federal Register on October 30, 2009 (74 FR 56260). The final rule became effective on December 29, 2009 and requires reporting of GHGs from various facilities and suppliers, consistent with the 2008 Consolidated Appropriations Act.[2]

[2] Consolidated Appropriations Act, 2008, Public Law 110–161, 121 Stat. 1844, 2128.

The EPA subsequently proposed and finalized amendments to various subparts, including subparts in this action. The amendments generally did not change the basic requirements of Part 98, but were intended to improve clarity and ensure consistency across the calculation, monitoring, and data reporting requirements. The EPA issued additional rules in 2010 finalizing the requirements for subparts T, FF, II, and TT (75 FR 39736, July 12, 2010); subparts I, L, DD, QQ, and SS (75 FR 74774, December 1, 2010); and subparts RR and UU (75 FR 75060, December 1, 2010). Following the promulgation of these subparts, the EPA finalized several technical and clarifying amendments to these and other subparts under the GHGRP. A number of subparts have been revised since promulgation (75 FR 79092, December 17, 2010; 76 FR 73866, November 29, 2011; 77 FR 10373, February 22, 2012; 77 FR 29935, May 21, 2012; 77 FR 51477, August 24, 2012; 78 FR 68162, November 13, 2013; 78 FR 71904, November 29, 2013; 79 FR 63750, October 24, 2014; and 79 FR 73750, December 11, 2014). The amendments in this action are a continuation of the effort to improve the GHGRP and address issues identified during implementation.

D. Legal Authority

The EPA is proposing these rule amendments under its existing CAA authority provided in CAA section 114. As stated in the preamble to the 2009 final GHG reporting rule (74 FR 56260), CAA section 114(a)(1) provides the EPA broad authority to require the information proposed to be gathered by this rule because such data would inform and are relevant to the EPA's carrying out a wide variety of CAA provisions. See the preambles to the proposed and final GHG reporting rule for further information.

In addition, the EPA is proposing confidentiality determinations for proposed new, revised, and existing data elements in Part 98 under its authorities provided in sections 114, 301,

and 307 of the CAA. Section 114(c) of the CAA requires that the EPA make publicly available information obtained under CAA section 114, except for information (excluding emission data) that qualifies for confidential treatment. The Administrator has determined that this proposed rule is subject to the provisions of section 307(d) of the CAA. Generally section 307(d) contains a set of procedures relating to the issuance and review of certain enumerated CAA rules.

E. When would the proposed amendments apply?

In this action, the EPA is proposing: 1) numerous amendments to Part 98 including subpart-specific revisions that would streamline implementation of Part 98, improve the quality of the data collected under the rule, update certain provisions to more accurately reflect industry processes and emissions, and other corrections, as described in sections II and III of this preamble; and 2) new or revised confidentiality determinations for data elements that are added or revised in the proposed amendments or for certain existing data elements, as described in section IV of this preamble. The EPA is planning to phase in implementation of the proposed requirements depending on the nature of the revision. Some of the amendments would apply in RY2016, some in RY2017, and some in RY2018. This section describes when each of the proposed amendments would apply.

We are proposing that amendments to 40 CFR part 98, subparts I (Electronics Manufacturing) and HH (Municipal Solid Waste Landfills), with related revisions to subpart A (General Provisions), would apply to the RY2016 reports, which must be submitted by March 31, 2017. The remaining amendments proposed in this action would apply to annual reports submitted for RY2017, except for amendments to V (Nitric Acid Production), Y (Petroleum Refineries), FF (Underground Coal Mines) and OO (Suppliers of Industrial Greenhouse Gases) which would apply to reports for RY2018.

We are proposing to implement these revisions over reporting years 2016, 2017, and 2018 in order to stagger the implementation of these changes over time, in consideration of the types of changes being made and the associated revisions needed to implement them, including impacts to reporters and revisions to EPA's e-GGRT. Specifically, some of the proposed changes include revisions to software that would need to be updated in e-GGRT. The time phasing also allows sufficient lead time for reporters to implement the proposed changes following the promulgation of the final rule revisions. For example, where the proposed changes would require reporters to collect new data that are not readily available or that could not be determined from existing monitoring and recordkeeping, the EPA would not apply these changes to RY2016 reports. The proposed schedule also provides sufficient time for new reporters who would become subject to Part 98 as a result of the proposed amendments to acquire monitoring equipment and begin collecting data. The amendments that would apply to RY2016, RY2017, and RY2018 reports are discussed in sections I.E.1, I.E.2, and I.E.3 of this preamble.

1. Which proposed amendments would apply beginning with RY2016?

Table 3 of this preamble lists the affected subparts and proposed changes that would apply to RY2016.

Table 3. Proposed Changes to Part 98 Applicable to RY2016

Subpart Affected[a]	**Changes Applicable in RY2016**
A - General Provisions	40 CFR 98.6 (definition of "Gas collection system or landfill gas collection system" only)
I - Electronics Manufacturing	All proposed changes in subpart
HH - Municipal Solid Waste Landfills	All proposed changes in subpart

[a] Subpart names may also be found in the Table of Contents for this preamble

We are proposing that all changes to subparts I and HH, and minor revisions to subpart A, would apply to reports for RY2016, which must be submitted by March 31, 2017. For subpart

I, we are proposing several revisions that would improve the quality of the data collected. For example, we are proposing to revise the requirements of the technology triennial report in 40 CFR 98.96(y), which applies to semiconductor manufacturing facilities with emissions from subpart I processes greater than 40,000 metric tons of carbon dioxide equivalent ($mtCO_2e$) per year. Per the requirements of 40 CFR 98.96(y)(1), facilities are required to submit the first triennial report on March 31, 2017. The changes we are proposing to 40 CFR 98.96(y) would clarify the types of data and measurements to be submitted with the triennial report, but would not fundamentally alter the data reported or require additional data collection from reporters. Specifically, we are clarifying that where reporters provide any utilization and by-product formation rates and/or destruction or removal efficiency data in the triennial report, they must also include information on the methods and conditions under which the data were collected, where available (see section III.F of this preamble for additional information). We are proposing to implement the changes to subpart I in RY2016 in order to ensure that the data submitted in the triennial reports submitted on March 31, 2017 reflects these methods and conditions, which will help the EPA to more efficiently review the reported data. In addition to the proposed changes to 40 CFR 98.96(y), the EPA is proposing revisions to improve the methodology used to calculate the fraction of fluorinated-GHG and fluorinated-GHG byproduct destroyed or removed in a fab using the stack testing methodology.

Under subpart HH, we are proposing several revisions to improve the quality of the data collected, better align the rule requirements with industry operating practices, and streamline the reporting requirements. We are also proposing one related change to subpart A of Part 98 to update the definition of "gas collection system or landfill gas collection system" in 40 CFR 98.6. These revisions, which are described in section III.S of this preamble, are proposed to apply to

RY2016 reports because they provide additional clarifications and flexibility regarding the existing regulatory requirements that address questions raised by reporters during implementation.

We have determined that it would be feasible for existing reporters to implement the proposed changes to subparts A, I, and HH for RY2016 because these changes are consistent with the data collection and calculation methodologies in the current rule. The proposed revisions would not add new monitoring requirements, and would not substantially affect the type of information that must be collected. The owners or operators are not required to actually submit RY2016 reports until March 31, 2017, which is three months or more after we expect the final rule amendments based on this proposal to be published, thus providing ample opportunity for reporters to adjust to the amendments.

2. Which proposed amendments would apply beginning with RY2017?

Table 4 of this preamble lists the affected subparts and proposed changes that would apply to RY2017. For these revisions, reporters would submit an annual report on March 31, 2018.

Table 4. Proposed Changes to Part 98 Applicable to RY2017

Subpart Affected	**Changes Applicable in RY2017**
A - General Provisions	§98.2; §98.3; §98.4; §98.6; §98.7(e)(33); and Tables A-3 and A-4
C - General Stationary Fuel Combustion Sources	All proposed changes in subpart
E - Adipic Acid Production	All proposed changes in subpart
F - Aluminum Production	All proposed changes in subpart
G - Ammonia Manufacturing	All proposed changes in subpart
N - Glass Production	All proposed changes in subpart
O - HCFC-22 Production and	All proposed changes in subpart

HFC-23 Destruction	
P - Hydrogen Production	All proposed changes in subpart
Q - Iron and Steel Production	All proposed changes in subpart
S - Lime Manufacturing	All proposed changes in subpart
U - Miscellaneous Uses of Carbonate	All proposed changes in subpart
X - Petrochemical Production	All proposed changes in subpart
Z - Phosphoric Acid Production	All proposed changes in subpart
AA - Pulp and Paper Manufacturing	All proposed changes in subpart
CC - Soda Ash Manufacturing	All proposed changes in subpart
DD – Use of Electric Transmission and Distribution Equipment	All proposed changes in subpart
II – Industrial Wastewater Treatment	All proposed changes in subpart
LL – Suppliers of Coal-based Liquid Fuels	All proposed changes in subpart
MM – Suppliers of Petroleum Products	All proposed changes in subpart
NN – Suppliers of Natural Gas and Natural Gas Liquids	All proposed changes in subpart
PP – Suppliers of Carbon Dioxide	All proposed changes in subpart
RR – Geologic Sequestration of Carbon Dioxide	All proposed changes in subpart
TT – Industrial Waste landfills	All proposed changes in subpart
UU – Injection of Carbon Dioxide	All proposed changes in subpart

The changes to subparts listed in Table 4 of this preamble would apply to the annual reports submitted for RY2017 on March 31, 2018; these changes are proposed to apply to the 2017 reporting year in order to allow for adequate time for the agency to integrate the revisions through e-GGRT and the Inputs Verification Tool (IVT), as well as prepare to incorporate the revisions into other GHGRP datasets and publications. The changes to subparts included in Table

4 of this preamble would be feasible for reporters to implement for RY2017 because these changes are consistent with the data collection and calculation methodologies in the current rule. In most cases, the proposed revisions include minor revisions such as editorial corrections, corrections to cross-references, and technical clarifications regarding the existing regulatory requirements. Where calculation equations are proposed to be modified, the changes generally clarify terms in the emission calculation equations and do not materially affect monitoring requirements or how emissions are calculated. In some cases, we are adding flexibility by providing alternative monitoring methods or missing data procedures that would reduce burden on reporters. For example, in subpart AA (Pulp and Paper Manufacturing), for missing measurements of the mass of spent liquor solids or spent pulping liquor flow rates, we are proposing to allow reporters to use the daily mass of spent liquor solids fired that are currently reported under 40 CFR 63, subpart MM (National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills) as an alternative to maximum mass and flow rate values currently required in 40 CFR 98.275(b) (see section III.O of this preamble for additional information). Other proposed changes would reduce the type of information that must be collected; *e.g.*, we are proposing to revise 40 CFR 98.2(i) of subpart A to clarify the EPA's policies allowing reporters to cease reporting under Part 98 (see section III.A.1 of this preamble), and we are proposing to remove reporting requirements in subpart O (HCFC-22 Production and HFC-23 Destruction) (see section III.H of this preamble) and subpart LL (Suppliers of Coal-based Liquid Fuels) (see section III.U of this preamble) that are no longer needed to support verification or other activities. Although some of the proposed revisions included in Table 4 of this preamble would include reporting additional data, the EPA has determined that the data we are proposing to

collect would be readily available to reporters. For example, we are proposing to add requirements to 40 CFR part 98, subpart DD (Electrical Transmission and Distribution Equipment Use) and subpart NN (Suppliers of Natural Gas and Natural Gas Liquids) for reporters to include the name of the U.S. state or territory covered in the facility's annual report. Because these revisions would not require the collection of additional data or changes to existing monitoring requirements, it is feasible for these revisions to be implemented for RY2016. However, we are not implementing these changes until RY2017 to allow the agency sufficient time to incorporate the revisions into e-GGRT and IVT. Finally, we note that the reporters affected under the subparts in Table 4 of this preamble are not required to actually submit RY2017 reports until March 31, 2018. Because a final rule based on this proposal would be finalized in late 2016, reporters will have over a year to prepare for the amendments before they must submit RY2017 reports.

3. Which proposed amendments would apply beginning with RY2018?

We are proposing that the revisions to the subparts listed in Table 5 of this preamble would apply to annual reports submitted for RY2018, which must be submitted by March 31, 2019.

Table 5. Proposed Changes to Part 98 Applicable for RY2018

Subpart Affected	**Changes Applicable in RY2018**
A – General Provisions	§98.7(l)(1); Table A-5
V – Nitric Acid Production	All proposed changes in subpart
Y – Petroleum Refineries	All proposed changes in subpart
FF – Underground Coal Mines	All proposed changes in subpart
OO – Suppliers of Industrial Greenhouse Gases	All proposed changes in subpart

We are proposing that revisions to subparts V, Y, FF, and OO, and related changes to 40 CFR 98.7(l)(1) and Table A-5 of subpart A, would apply to RY2018, with reporters following the revised rule requirements beginning January 1, 2018. In several cases, the proposed changes would revise the applicability of a source category to certain facilities or significantly revise existing calculation or monitoring methodologies. For example, we are proposing to revise the definition of the industrial gas supplier source category in 40 CFR part 98, subpart OO to include facilities that destroy, but do not produce, fluorinated GHGs and fluorinated HTFs. These proposed changes could expand the applicability of Part 98 to additional facilities that were not previously required to report under the rule; these facilities would require more time to acquire and install monitoring equipment and begin collecting data under Part 98. Similarly, we are proposing to revise the calculation methodology for delayed coking units in 40 CFR part 98, subpart Y (Petroleum Refineries) to better reflect industry emissions (see section III.M of this preamble).

As discussed in section III.R of this preamble, we are proposing some methodological changes to subpart FF to clarify the type of facilities included in the source category and revise the monitoring and data collection requirements to improve the quality of the data collected. We are proposing a related revision to 40 CFR 98.7(l)(1) in subpart A to incorporate updated methods for sampling methane concentration and conducting measurements of flow rate, temperature, pressure, and moisture content. Given that the final rule revisions would not be finalized until the second half of 2016, it is assumed that it would not be feasible for these facilities to acquire, install, and calibrate new monitoring equipment, or to perform more frequent monitoring, in time for the reports submitted for RY2017. However, the EPA is also

seeking comment on whether underground coal mine facilities would indeed be able to meet these revised requirements for RY2017.

In past rulemakings, the EPA has typically required monitoring to begin a few months after finalization of revised rules, and has offered Best Available Monitoring Methods (BAMM) to be used temporarily to provide sufficient time for facilities to come into full compliance with the newly finalized monitoring methods. In this action, to avoid the need to offer the use of BAMM and to stagger the burden associated with making revisions to e-GGRT, we are proposing that the revisions to these subparts would apply to RY2018 reports. If finalized, subpart V, Y, FF, and OO reporters, including new reporters, would begin following the revised rule requirements on January 1, 2018 and submit the first annual reports using the revised monitoring and data collection methods on March 31, 2019. This schedule would allow at least one year for subpart V, Y, FF, and OO reporters to acquire, install, and calibrate any new monitoring equipment, as well as implement any changes to existing monitoring methods, for the 2018 reporting year. The proposed timeline also allows sufficient time for the agency to integrate any associated changes to reporting requirements in the affected subparts into e-GGRT and other GHGRP activities, such as verification.

The EPA is proposing one related change to subpart A that could apply to certain subpart FF reporters prior to January 1, 2018. In keeping with the proposed changes discussed in section III.A.1 of this preamble, we are proposing to revise 40 CFR 98.2(i) of subpart A to streamline the reporting requirements for closed coal mines. These proposed revisions would apply beginning January 1, 2017, consistent with the proposed revisions to 40 CFR 98.2 listed in Table 4 of this preamble, and could affect owners and operators of abandoned underground mines (see

section III.A and III.R of this preamble for additional information). All other proposed revisions related to subpart FF would apply beginning January 1, 2018 for the reasons described above.

F. Where can I get a copy of information related to the proposed rule?

This preamble references several documents developed to support the proposed rulemaking. These documents provide additional information regarding the proposed changes to Part 98, and supplementary information which the EPA considered in the development of the proposed revisions. These documents are referenced in sections II through V of this preamble and are available in the docket to this rulemaking or other rulemaking dockets, as follows:

- "Table of 2015 Revisions to the Greenhouse Gas Reporting Rule." EPA memorandum summarizing the less substantive minor corrections, clarifications, and harmonizing revisions in the proposed rule, as discussed in section II of this preamble. Available in the docket for this proposed rulemaking, Docket Id. No. EPA-HQ-OAR-2015-0526.
- "Re: Strong Nitric Acid Facilities in the U.S." From Natalie Tang, EPA to Alexis McKittrick and Mausami Desai, EPA, dated January 29, 2015. Memorandum supporting proposed revisions to subpart V (Nitric Acid Production) as discussed in section III.K of this preamble. Available in the docket for this proposed rulemaking, Docket Id. No. EPA-HQ-OAR-2015-0526.
- "Request to Consider IPCC Balanced EDC/VCM Process Studies and Data for the Elimination of e-GGRT Validation Messages at VCM Production Facilities Reporting Under Subpart X." Letter received from Occidental Chemical Company, July 10, 2015, as discussed in section III.L of this preamble. Available in the docket for this proposed rulemaking, Docket Id. No. EPA-HQ-OAR-2015-0526.
- "Proposed Changes to Flare Pilot Gas Reporting Requirements under the Greenhouse Gas Reporting Program (GHGRP)." From Jeff Coburn, Leslie Pearce and Kevin Bradley, RTI International (RTI) to Brian Cook, EPA, dated July 10, 2015. Memorandum supporting proposed revisions to subpart Y (Petroleum Refineries) as discussed in section III.M of this preamble. Available in the docket for this proposed rulemaking, Docket Id. No. EPA-HQ-OAR-2015-0526.
- "Revised Emission Methodology for Delayed Coking Units." From Jeff Coburn, RTI to Brian Cook, EPA, dated June 4, 2015. Memorandum supporting proposed revisions to subpart Y (Petroleum Refineries) as discussed in section III.M of this preamble. Available in the docket for this proposed rulemaking, Docket Id. No. EPA-HQ-OAR-2015-0526.
- "Evaluating Possible VAM Emissions Estimation Errors Based on Different Sampling Intervals (Quarterly, Monthly, Weekly)." Ruby Canyon Engineering, dated June 10, 2015. Memorandum supporting revisions to subpart FF (Underground Coal Mines) as

discussed in section III.R of this preamble. Available in the docket for this proposed rulemaking, Docket Id. No. EPA-HQ-OAR-2015-0526.

- "Use of Inspection Data from the Mine Safety Health Administration for Reporting Quarterly Methane Liberation from Mine Ventilation Shafts." From Clark Talkington, Advanced Resources International, Inc. (ARI) to Cate Hight, EPA, dated November 13, 2015. Memorandum supporting revisions to subpart FF (Underground Coal Mines) as discussed in section III.R of this preamble. Available in the docket for this proposed rulemaking, Docket Id. No. EPA-HQ-OAR-2015-0526.
- "Review of Oxidation Studies and Associated Cover Depth in the Peer-Reviewed Literature." From Kate Bronstein, Meaghan McGrath, and Jeff Coburn, RTI to Rachel Schmeltz, EPA, dated June 17, 2015, Memorandum supporting proposed revisions to subpart HH (Municipal Solid Waste Landfills) as discussed in section III.S of this preamble. Available in the docket for this proposed rulemaking, Docket Id. No. EPA-HQ-OAR-2015-0526.
- "Review of Site-Specific Industrial Waste Degradable Organic Content Data" from Jeff Coburn and Katherine Bronstein, RTI to Rachel Schmeltz, EPA, dated June 17, 2015. Memorandum supporting proposed revisions to subpart TT (Industrial Waste Landfills) as discussed in section III.Y of this preamble. Available in the docket for this proposed rulemaking, Docket Id. No. EPA-HQ-OAR-2015-0526.
- "Proposed Data Category Assignments and Confidentiality Determinations for Data Elements in the Proposed 2015 Revisions." Memorandum listing all proposed new, substantially revised, and existing data elements with proposed category assignments and confidentiality determinations, as described in Section IV of this preamble. Available in the docket for this proposed rulemaking, Docket Id. No. EPA-HQ-OAR-2015-0526.
- "Final Evaluation of Competitive Harm from Disclosure of 'Inputs to Equations' Data Elements Deferred to March 31, 2015." Memorandum, September 2014. Available in Docket Id. No. EPA-HQ-OAR-2010-0929.
- "Summary of Evaluation of Greenhouse Gas Reporting Program (GHGRP) Part 98 'Inputs to Emission Equations' Data Elements Deferred Until 2013." Memorandum, December 17, 2012. Available in the docket for this proposed rulemaking, Docket Id. No. EPA-HQ-OAR-2015-0526.
- "Final Data Category Assignments and Confidentiality Determinations for Part 98 Reporting Elements." Memorandum, April 29, 2011. Available in Docket Id. No. EPA-HQ-OAR-2009-0924.
- "Assessment of Burden Impacts of 2015 Revisions to the Greenhouse Gas Reporting Rule." Memorandum describing the costs of the proposed revisions to Part 98, as discussed in section V of this preamble. Available in the docket for this proposed rulemaking, Docket Id. No. EPA-HQ-OAR-2015-0526.

G. Methods Incorporated by Reference

In this rulemaking, the EPA is proposing to include in a final EPA rule regulatory text for 40 CFR 98.7 that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, the EPA is proposing to incorporate by reference the following:

- Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples using Radiocarbon Analysis (ASTM D6866-12), which would apply to subpart C reporters (see section III.B.2 of this preamble). These standards are available on the ASTM Web site (http://www.astm.org/) to everyone at a cost determined by the ASTM ($50). The ASTM also offers memberships or subscriptions that allow unlimited access to their methods. The cost of obtaining these methods is not a significant financial burden, making the methods reasonably available for reporters. The EPA will also make a copy of these documents available in hard copy at the appropriate EPA office (see the **FOR FURTHER INFORMATION CONTACT** section of this preamble for more information) for review purposes only.
- Inspection and sampling standards from the Coal Mine Safety and Health General Inspection Procedures Handbook Number: PH13-V-1 (February 2013) as published by the Mine Safety and Health Administration (MSHA), which would apply to subpart FF reporters (see section III.R.2 of this preamble). These standards are available free of charge through the MSHA website (http://www.msha.gov). The EPA has also made, and will continue to make, these documents available electronically through www.regulations.gov.

Because these standards do not present a significant financial burden to reporters, the EPA has determined that these methods are reasonably available. The EPA has also made, and will continue to make, these documents generally available in hard copy at the appropriate EPA office (see the **FOR FURTHER INFORMATION CONTACT** section of this preamble for more information).

II. Overview and Rationale for Proposed Amendments to Part 98

In this action, the EPA is proposing to revise specific provisions in Part 98 to simplify and streamline implementation of the rule, improve the quality and consistency of the data collected under the rule, and to clarify or provide minor updates to certain provisions that have

been the subject of questions and feedback from reporting entities. The EPA has identified four categories of changes that we are proposing in this rulemaking, which include the following:

- Revisions to streamline implementation of the rule by reducing or simplifying requirements that would ease burden on reporters and the EPA, such as revising requirements to focus GHGRP and reporter resources on relevant data, removing reporting requirements for specific facilities which report little to no emissions, or removing reported data elements that are no longer necessary;
- Amendments that would expand monitoring, applicability, or reporting requirements that are necessary to enhance the quality of the data collected, improve verification of collected data under the GHGRP, and improve the accuracy of data included in the U.S. GHG Inventory;
- Other amendments, such as amendments to calculation, monitoring, or measurement methods that would address prior petitioner or commenter concerns (*e.g.*, amendments that provide additional flexibility for facilities or that more accurately reflect industry processes and emissions).
- Minor clarifications and corrections, including: corrections to terms and definitions in certain equations; clarifications that provide additional information for reporters to better or more fully understand compliance obligations; changes to correct cross references within and between subparts; and other editorial or harmonizing changes that would improve the public's understanding of the rule.

Sections II.A through II.D of this preamble describe each of the above categories in more detail and provide rationale for the changes included in each category.

The proposed changes in this action would advance the EPA's goal of maximizing rule effectiveness. For example, these proposed changes would clarify existing rule provisions, thus enabling government, regulated entities, and the public to easily identify and understand rule requirements. In addition, specific changes such as increasing the flexibility given to reporting entities related to requesting extensions for revising annual reports would make compliance easier than non-compliance. The proposed changes also serve to clarify whether and when reporting requirements apply to a facility, and more specifically when a facility may discontinue reporting, thereby allowed a regulated entity to regularly assess their compliance and prevent noncompliance.

The proposed changes would also improve the EPA's ability to assess compliance by adding reporting elements that allow the EPA to more thoroughly verify GHG data and understand trends in emissions. For example, the proposed requirement to report the date of installation of any abatement equipment at Adipic Acid and Nitric Acid Production facilities will increase the EPA and public's understanding of the use of and trends in emissions reduction technologies. Lastly, the proposed changes further advance the ability of the Greenhouse Gas Reporting Program to provide access to quality data on greenhouse gas emissions by adding key data elements to improve the usefulness of the data. One example is the proposed addition of the reporting of emissions by state for Suppliers of Natural Gas (subpart NN reporters). This data will allow users of the GHGRP data to more easily identify the state within which the reporter operates, which will be useful for determining state level GHG totals associated with natural gas supply and increase transparency and usefulness of the data reported.

Additional details for the specific amendments proposed for each subpart are included in section III of this preamble. To reduce the length of this preamble, we have summarized the remaining less substantive minor corrections, clarifications, and harmonizing revisions in the memorandum, ''Table of 2015 Revisions to the Greenhouse Gas Reporting Rule'' (hereafter referred to as the ''Table of Revisions'') available in the docket for this rulemaking (EPA-HQ-OAR-2015-0526). These changes include straightforward clarifications of requirements to better reflect the EPA's intent; harmonizing changes within subparts (such as harmonizing terminology); corrections to calculation terms and cross-references; editorial and minor error corrections; and removal of redundant text. The Table of Revisions describes each proposed change within a subpart, including those itemized in this preamble, and provides the current rule

text and the proposed correction. Where the proposed change is listed only in the Table of Revisions, the rationale for the proposed change is also listed there.

We are seeking public comment only on the issues specifically identified in this notice (including the changes listed in the Table of Revisions) for the identified subparts. We are not reopening other aspects of Part 98.

A. Revisions to Streamline Implementation of Part 98

Following implementation of Part 98, the EPA has identified several areas of the rule which could be revised or simplified to improve the efficiency of the requirements or to reduce the burden on reporters and the EPA. We are consequently proposing several revisions that would streamline the requirements as well as improve implementation of the rule.

Several of the proposed revisions would clarify and revise the requirements of Part 98 in order to focus the GHGRP and reporter resources on the most relevant data. In some cases, we are proposing to revise requirements to reduce when facilities must report emissions, such as by clarifying requirements for facilities that may report very little or no emissions. The EPA does not anticipate a significant change in the overall reported emissions or a reduction in the quality of reported carbon dioxide equivalent (CO_2e) emissions and supply. Removing these instances of reporting would also reduce burden on some reporters.

As an example, we are proposing to revise 40 CFR part 98, subpart FF to allow an underground coal mine to cease reporting after it has closed and its status is determined to be "abandoned" by MSHA. The CO_2e emissions from abandoned and sealed mines are far below the reporting threshold. The EPA is proposing these types of changes to reduce burden, as well as to focus the collection of data under the GHGRP on those sources that are expected to emit, import, or export larger amounts of greenhouse gases.

In addition, the EPA is proposing in this rulemaking that pilot gas, which is considered the gas used to maintain a pilot flame at the flare tip, may be excluded from the quantity of flare gas used to perform GHG emissions calculations for subparts Q (Iron and Steel Production), X (Petrochemical Production), and Y (Petroleum Refineries). The quantity of GHG emissions associated with pilot gas is very small relative to the total GHG emissions from a flare at petroleum refineries, petrochemical production facilities, and iron and steel production facilities. Eliminating the monitoring of this small quantity of emissions will not adversely impact the quality of the greenhouse gas data collected and may decrease the burden associated with monitoring the flare gas. We are proposing similar revisions to other subparts that simplify data collection for reporters and focus the provisions of the rule on the essential data that the EPA requires to review, assess, and verify reported emissions.

Other proposed revisions to the rule include changes that would streamline the rule, such as removing reported data elements that are no longer necessary. For example, for 40 CFR part 98, subpart LL (Suppliers of Coal-based Liquid Fuels), we are proposing to remove requirements of 40 CFR 98.386 that are no longer needed to support verification or other activities. In a prior notice, "2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantially Revised Data Elements" (78 FR 71904, November 29, 2013, hereafter referred to as "2013 Revisions Rule"), we finalized amendments to subpart LL that removed requirements in 40 CFR 98.386 for suppliers to report the annual quantity of each product or natural gas liquid on the basis of the measurement method used. Subpart LL reporters are currently only required to report the total annual quantities of each product or natural gas liquid in metric tons or barrels supplied. In this action, we are proposing to remove the provisions of 40 CFR 98.386 that require suppliers to report the methods used to measure the

quantities of each product reported. This change would harmonize with the previously finalized revisions which removed the requirement to report products by method and would reduce the burden on reporters.

We are also proposing certain revisions that would streamline the reporting and verification process. These proposed changes would ease the burden on reporters (e.g., by reducing the actions required of reporters) and improve agency implementation of the rule. For example, we are proposing to revise 40 CFR 98.2(i) to clarify the EPA's policies allowing reporters to cease reporting under Part 98. The existing provisions of 40 CFR 98.2(i) provide options for reporters to discontinue reporting when annual emissions are less than certain thresholds, or if process operations are permanently shut down. We are proposing to clarify when these requirements apply for suppliers, processes or operations that cease operation in the reporting year, and facilities where the operations are changed such that a process or operation no longer meets the "Definition of Source Category" for a subpart. These provisions are anticipated to streamline reporting by specifying when reporters are no longer required to report for a particular process or operation.

We are proposing similar changes to Part 98 which would improve the efficiency of the reporting process. The specific changes that we are proposing that are intended to streamline Part 98, as described in this section, are described for each subpart, as appropriate, in sections III.A through III.Y of this preamble.

B. Revisions to Improve the Quality of Data Collected under Part 98 and Improve the U.S. GHG Inventory

The EPA is also proposing amendments in this action that would improve the existing applicability, monitoring, or reporting requirements of Part 98 in order to enhance the quality and

accuracy of the data collected under the GHGRP, improve verification of collected data, and provide additional data to help improve estimates included in the U.S. GHG Inventory.

Several of the amendments in this action are being proposed to improve the quality of the data collected under the GHGRP. The data collected under Part 98 are used to inform the EPA's understanding of the relative emissions and distribution of emissions from specific industries, the factors that influence GHG emission rates, and to inform policy options and potential regulations. Following several years of implementation of the rule, the EPA has identified certain areas of the rule where clarifying amendments to source category definitions, revisions to calculation methodologies or monitoring methods, and revisions or additions to reporting requirements are needed to ensure that accurate data are being collected under the rule. For example, we are proposing revisions to subpart FF to revise the monitoring requirements for methane liberated from ventilation systems to remove the option to use quarterly testing by the MSHA. This change is being proposed because we have determined that the quarterly flowrate data gathered by MSHA cannot be used to reliably estimate coal mine emissions for GHG reporting purposes. Instead, coal mines will be required to use one of the other existing methods to measure emissions from ventilation, either collection of grab samples or use of continuous emissions monitoring systems (CEMS). In proposing this change, the EPA is seeking comment on whether other alternatives, such as surface level samples taken at the fan mouth, would achieve the same objectives for improved data quality from mine ventilation systems. The EPA is also seeking comment on increasing the frequency with which grab samples must be taken at underground coal mines. Currently coal mines must take grab samples on a quarterly basis and report methane liberation on a quarterly basis. In this action, the EPA is seeking comment on increasing the frequency of grab samples to monthly sampling in order to provide more

transparent and reliable measurement of methane emissions from ventilation systems while more closely aligning the monitoring requirements for mine ventilation with those for degasification systems. The EPA also seeks comments on other monitoring frequencies higher than monthly (such as biweekly) or monitoring frequencies higher than quarterly but less than monthly (such as bimonthly). For comments on increasing the monitoring frequency and the availability of other alternative monitoring methods, the EPA encourages commenters to submit studies, data, and background information on multi-year ventilation system monitoring on a basis that is more frequent than quarterly. This information will help determine the appropriate frequency of monitoring for ventilation emissions that is needed to ensure reliable and accurate measurements.

In another case, we are proposing to revise existing reporting requirements to collect more detailed facility data. For example, we are proposing to amend the reporting requirements of 40 CFR part 98, subpart O (HFC–22 Production and HFC–23 Destruction) to require reporting of the information under 40 CFR 98.156(a) at a process level. Currently, reporters are required to submit the annual mass of HCFC-22 produced, the annual mass of reactants fed into the process, the annual mass of HFC-23 emitted, and additional information under 40 CFR 98.156(a) at the facility level. Collecting this information on a process-level basis would further our understanding of emissions from HCFC-22 production processes and provide a more accurate emissions profile for this sector.

Some of the proposed amendments include revisions to existing reporting requirements to clarify the data that are currently reported or improve verification of reported data. For example, we are proposing amendments to 40 CFR part 98, subpart HH to add a requirement for landfills with gas collection systems to report the number of hours active gas flow was sent to each destruction device instead of the annual operating hours for each destruction device. This

revision is needed in order for the EPA's reporting tool to accurately calculate a key variable in certain equations used to calculate emissions. Although the proposed change would require different data to be reported, it would improve verification of the existing data by reducing the number of reporters that override their equation results, resulting in fewer verification errors and follow-up messages to reporters.

We are also proposing several amendments to ensure data collected by the GHGRP adequately support the U.S. GHG Inventory. As described in the preamble of the proposed GHG Reporting Rule (74 FR 16448, April 10, 2009), the GHGRP is intended to supplement and complement the U.S. GHG Inventory by advancing the understanding of emission processes and monitoring methodologies for particular source categories or sectors. Specifically, the GHGRP complements the U.S. GHG Inventory by providing data from individual facilities and suppliers above certain thresholds to improve the assumptions and emissions values used in the U.S. GHG Inventory. The collected facility, unit, and process-level GHG data from the GHGRP provide and confirm the national statistics and emission estimates presented in the U.S. GHG Inventory, which are calculated using aggregated national data. These proposed amendments include clarifications to source category definitions, revisions to calculation methodologies, and revisions or additions to reporting requirements that will improve the accuracy of the data included in the U.S. GHG Inventory and improve our ability to inform the development of GHG policies and programs. For example, we are proposing revisions to 40 CFR part 98, subpart E (Adipic Acid Production) and 40 CFR part 98, subpart V (Nitric Acid Production) that would require reporting of the date of installation of any abatement systems (if applicable). The addition of these data elements would help improve the accuracy of trend estimates for these sectors in the U.S. GHG Inventory. Specifically, the proposed data elements would allow the

agency to apply emission factors with and without abatement systems over the correct time periods using the reported dates.

The specific changes that we are proposing for each subpart, as appropriate, are described in sections III.A through III.Y of this preamble.

C. Other Amendments

In addition to the amendments described in sections II.A and II.B of this preamble, the EPA is proposing other amendments to certain subparts of Part 98. Through outreach and communication with stakeholders, the EPA has identified certain aspects of the rule that may require substantive revision, such as amending calculation, monitoring, or measurement methods to provide flexibility for certain facilities, or to more accurately reflect industry processes and emissions. These changes would respond to comments raised by stakeholders in prior rulemakings and issues raised by petitioners for certain subparts, and would more closely align rule requirements with the processes conducted at specific facilities. For example, for 40 CFR part 98, subpart TT (Industrial Waste Landfills), we are proposing to add several waste types for pulp and paper, including associated degradable organic content (DOC) and k-values, to Table TT-1 of subpart TT to include common industrial waste subtypes. The EPA is proposing these revisions following comments on 2013 Revisions Rule, in which stakeholders requested the EPA add these common waste types to Table TT-1 of subpart TT. These proposed revisions would improve the accuracy of calculated emissions reported by these facilities.

Additional details for the amendments described in this section are discussed for each subpart, as appropriate, in sections III.A through III.Y of this preamble.

D. Minor Corrections, Clarifications, and Harmonizing Revisions

The EPA is proposing additional minor corrections, clarifications, and harmonizing revisions that would improve understanding of the rule. These revisions primarily include simple revisions of requirements to better reflect the EPA's intent, such as clarifying changes to definitions, calculation methodologies, monitoring and quality assurance requirements, missing data procedures, and reporting requirements. Some of these proposed changes result from questions raised by reporters through the GHGRP Help Desk or e-GGRT and are intended to resolve uncertainties in the regulatory text. The proposed changes would reduce confusion for reporters and correct inconsistencies in the rule.

In some cases, we are proposing minor amendments that would clarify general monitoring requirements, measurement methods, or reported data elements. These revisions include less substantive changes, such as simple corrections to calculation terms, revisions of cross-references, harmonizing changes (such as changes to terminology within a subpart for consistency), simple editorial corrections, and removal of redundant text. As discussed earlier in section II of this preamble, these less substantive revisions are summarized in the Table of Revisions available in the docket for this rulemaking (EPA-HQ-OAR-2015-0526).

III. Proposed Amendments to Each Subpart

This section summarizes the specific substantive amendments proposed for each Part 98 subpart, as generally described in section II of this preamble. Sections III.A through III.Z of this preamble also identify where additional minor corrections to a subpart are included in the Table of Revisions.

A. Subpart A – General Provisions

In this action, we are proposing several amendments, clarifications, and corrections to subpart A of Part 98. This section discusses the substantive changes to subpart A; additional minor amendments, corrections, and clarifications are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart A to Streamline Implementation

For the reasons described in section II.A of this preamble, we are proposing several amendments that are intended to simplify and streamline the requirements of subpart A and increase the efficiency of the report submittal process. First, we are proposing to revise 40 CFR 98.2(i) to clarify the EPA's policies allowing reporters to cease reporting under Part 98. The existing provisions of 40 CFR 98.2(i)(1) and (2) provide options for reporters to discontinue reporting if annual emissions are less than 25,000 $mtCO_2e$ for five reporting years or less than 15,000 $mtCO_2e$ for three reporting years, or if process operations are permanently shut down. There has been confusion among reporters as to whether these off-ramp provisions apply to both direct emitters and suppliers, given the use of the term "emissions" in 40 CFR 98.2(i)(1) and (2) since suppliers report the quantity of product supplied into the economy and the emissions that would occur if the products were completely released, combusted, or oxidized when used by their customers. The EPA's original intention was that these off-ramp provisions apply to both suppliers (subparts LL through QQ) and direct emitters (subparts A through KK and subparts SS and TT), as well as the Injection of Carbon Dioxide source category (subpart UU). The EPA is adding a new paragraph to 40 CFR 98.2(i) to clarify this point. We are proposing to retain the current language in 40 CFR 98.2(i)(1) and (2) (*i.e.*, "reported emissions") to continue to refer to direct emitters and to add new paragraph 40 CFR 98.2(i)(4) to clarify that the provisions of 40

CFR 98.2(i)(1) and (2) apply to suppliers (*i.e.*, by specifying in 40 CFR 98.2(i)(4) that 40 CFR 98.2(i)(1) and (2) apply to suppliers by substituting the term "quantity of GHG supplied" for "emissions" in 40 CFR 98.2(i)(1) and (2)). For example, a supplier of industrial greenhouse gases might qualify under proposed 40 CFR 98.2(i)(4) to discontinue reporting as an exporter of industrial greenhouse gases because GHG exports are less than 25,000 $mtCO_2e$ for five reporting years (*i.e.*, as provided in 40 CFR 98.2(i)(1)). Further, we have clarified that, for suppliers, these off-ramp provisions apply individually to each importer, exporter, petroleum refinery, fractionator of natural gas liquids, local natural gas distribution company, and producer of carbon dioxide (CO_2), nitrous oxide (N_2O), or fluorinated greenhouse gases. For example, regarding the example above where a supplier of industrial greenhouse gases qualifies under proposed 40 CFR 98.2(i)(4) to discontinue reporting as an exporter of industrial greenhouse gases, this same supplier would still be required to report as an importer if they also report GHG imports that do not qualify under proposed 40 CFR 98.2(i)(4) to discontinue reporting because GHG imports are not less than the thresholds specified in 40 CFR 98.2(i)(1) or (2). Likewise, a company might qualify under 40 CFR 98.2(i)(4) to discontinue reporting as a supplier of industrial greenhouse gases under subpart OO (Suppliers of Industrial Greenhouse Gases) because the reported quantity of industrial greenhouse gases supplied is less than 15,000 $mtCO_2e$ for three reporting years (*i.e.*, as provided in 40 CFR 98.2(i)(2)), but the company might still be required to report as a supplier of carbon dioxide under subpart PP because the reported quantity of carbon dioxide supplied is not less than the thresholds specified in 40 CFR 98.2(i)(1) or (2). Additionally, the proposed off-ramp requirements for suppliers would be applied separately from those for direct emitters. This would occur whether the supplier and direct emitter report as two separate entities in e-GGRT or, for simplicity, as one entity in e-GGRT. For example, if a facility reports under

subpart Y (a direct emitter subpart) and subpart MM (a supplier subpart), and the facility meets the off-ramp requirements in proposed 40 CFR 98.2(i)(4) for the GHG quantities reported under subpart MM but does not meet the off-ramp requirements in 40 CFR 98.2(i)(1) or (2) for GHG emissions under subpart Y, then the facility may cease reporting under subpart MM while still reporting under subpart Y. If the subpart MM and subpart Y data were submitted in two different annual reports under two different e-GGRT identification numbers, the facility would discontinue submitting reports for subpart MM all together while continuing to submit reports for subpart Y. If the subpart MM and subpart Y data were submitted in one annual report under one e-GGRT identification number, the facility would continue to submit reports under that e-GGRT identification number with the subpart Y data and without the subpart MM data.

The requirements of 40 CFR 98.2(i)(3) allow reporters to discontinue reporting if all processes or operations cease operation (*e.g.*, plant closure). There has been confusion among reporters as to whether there is a similar provision to cease reporting for situations where a single process or operation ceases operation. The EPA is proposing to revise 40 CFR 98.2(i)(3) to specify that reporting is not required for any process or operation that ceases operation in the reporting years following the reporting year in which the process or operation ceased operation, provided the owner or operator submits a notification to the Administrator and explains the reasons for the cessation of operation. For example, if a facility previously reporting under 40 CFR part 98, subpart C (Stationary Fuel Combustion Sources) and 40 CFR part 98, subpart T (Magnesium Production) removes all of their combustion sources, but continues their magnesium casting operations under subpart T, the proposed revision to 40 CFR 98.2(i)(3) would clarify that this facility is exempt from the subpart C reporting of the combustion processes in the reporting years following the year in which the combustion sources ceased

operation. Note that 40 CFR 98.2(i)(3) does not apply to seasonal or other temporary cessation of operations, and that reporting must resume for any future calendar year during which any of the GHG-emitting processes or operations resume operation. A similar change is being proposed to streamline reporting for operators of underground coal mines subject to 40 CFR part 98, subpart FF. Specifically, we are proposing to amend 40 CFR 98.2(i)(3) to delete an exclusion for abandoned underground coal mines that precludes them from the off-ramp. Data submitted by closed and abandoned mines during the first four years of the GHGRP have improved the EPA's understanding of emissions from these mines and have shown that they produce GHG emissions in quantities well below the reporting threshold. This change is further discussed in section III.R.1 of this preamble.

In addition, there has been confusion regarding how Part 98 addresses situations where a facility no longer meets the "Definition of Source Category" specified in an applicable subpart. For example, subpart II of Part 98 (Industrial Wastewater Treatment) applies to anaerobic processes that treat wastewater from either meat processing operations (NAICS 3116) or fruit and vegetable processing (NAICS 3114). If a facility were subject to subpart II because it processes meat byproducts into human food, but switched its operations to producing animal food or to processing seafood rather than meat byproducts, then the processing plant would no longer meet the source category definition of "industrial wastewater treatment" in 40 CFR 98.350 because it no longer falls under the classification of NAICS 3116. The facility, therefore, would not be subject to reporting under subpart II. The EPA is proposing to add a new provision in 40 CFR 98.2(i)(5) to clarify that if the operations of a facility or supplier are changed such that a process or operation no longer meets the "Definition of Source Category" as specified in an applicable subpart, then the owner or operator is exempt from reporting under any such subpart

for the reporting years following the year in which change occurs, provided that the owner or operator submits a notification to the Administrator that announces the cessation of reporting for the process or operation no later than March 31 of the year following such changes. For any future calendar year during which the process or operation meets the "Definition of Source Category" as specified in an applicable subpart, the owner or operator would be required to resume reporting for the process or operation.

Lastly, the EPA is proposing to limit resubmittal of reports to five years prior to the current reporting year. For example, in RY2016, resubmittal of reports from RY2011-2015 would be allowed, but a resubmittal of a RY2010 report would no longer be permitted. The EPA currently requires facilities to resubmit past year reports for the Greenhouse Gas Reporting Rule in which a substantive error is identified, and allows resubmittals going back to the first year of the program. Based on the resubmittals to the program to date, the EPA has determined that the number of reports that are resubmitted falls drastically after the active verification period of 6 months, and continues to fall over time. Because there is significant burden to the EPA for maintaining the reporting forms needed for facilities to resubmit reports for past years, the EPA is seeking comment on limiting the resubmittals to 5-years prior to the current reporting year. The EPA would set the limit at five years in part because there is a 5-year recordkeeping requirement in Part 98.[3] The EPA has determined that this change will have minimal impact on the quality of the data set, as resubmissions for past years to date have not impacted overall sector or total emission trends. While this change would not require a revision to the regulatory text, the EPA wishes to seek input from stakeholders prior to implementing this policy. As a

[3] According to 40 CFR 98.3(g), facilities using the Inputs Verification Tool are required to maintain all records at the facility for five years. Facilities that are not required to use the Inputs Verification Tool for any subparts under which they are reporting are required to maintain records for three years.

result, in this action, the EPA is asking for comment on limiting resubmittal of reports to five years before the current reporting year.

2. Revisions to Subpart A to Improve the Quality of Data Collected under Part 98

The EPA is proposing several amendments to subpart A that would improve the quality of the data collected under the GHGRP. For the reasons described in section II.B of this preamble, these proposed revisions are intended to collect data that would improve the EPA's understanding of sector GHG emissions, and are anticipated to generally result in only a slight increase in burden for reporters.

First we are proposing revisions to 40 CFR 98.3(c) to revise the content of the annual report to include three new data elements to uniquely identify individually reported fluorinated GHGs and fluorinated heat transfer fluids (HTF): chemical name, CAS registry number, and the linear chemical formula. Currently, 40 CFR 98.3(c)(4)(iii)(E) and (F) require reporting of each fluorinated GHG and fluorinated HTF from applicable source categories, and 40 CFR 98.3(c)(5)(ii) requires the reporting of each fluorinated GHG from suppliers. The rule, however, does not specify how to identify each compound; instead, only the name of a GHG is required in a facility's annual report. Generally, reporters identify the GHGs in their annual report from Table A-1 of subpart A, which provides a list of fluorinated GHG along with the GWP of each gas, a registry number assigned by the Chemical Abstracts Service (CAS), and the chemical formula. When newly developed compounds are not listed in Table A-1 of subpart A, reporters classify the GHG as “other” and provide a chemical name. In these situations, different reporters sometimes refer to the "other" gas by different names (*e.g.*, a standard IUPAC name as well as one or more common or trade names), especially when compounds have more than one name that is scientifically valid. This also results in facilities reporting the same gas under a different

name from year to year. As an example, in prior reporting years, separate facilities under 40 CFR part 98, subpart I (Electronics Manufacturing) have reported emissions of the same fluorinated GHGs under multiple common names (*e.g.*, octafluorotetrahydrofuran may be reported separately as octafluorotetrahydrofuran, perfluorotetrahydrofuran, and c-C_4F_8O). Further, with the fast pace of technology development, new fluorinated chemicals are routinely being developed. Because of the rapid pace at which new chemicals enter the marketplace, it is not feasible for the EPA to update Table A-1 or the fluorinated GHG and fluorinated HTF lists in the GHGRP's electronic reporting system fast enough to keep pace with all chemicals in use at any point in time. If a fluorinated GHG were to be reported under a different name in a future reporting year, it could result in delays or errors in data analysis and trends if the GHGRP dataset contains information for the GHG associated with two different names.

To improve the usefulness of the emissions and supplier data reported, we are proposing to revise 40 CFR 98.3(c)(4) and (5) to include two additional identifiers of fluorinated GHGs and fluorinated HTFs so that each compound can be identified unambiguously. To the extent available, we propose to require chemical identifiers provided by national consensus organizations. The International Union of Pure and Applied Chemistry (IUPAC) provides a naming convention that can be used for all organic chemicals. The Chemical Abstracts Service (CAS) of the American Chemical Society assigns a chemical registry number that is widely used in industry and academia to identify individual chemical compounds. However, even with these two standardized services, we have learned that chemicals often are reported under different names for a variety of reasons. Therefore, knowing the linear chemical formula would help the EPA to classify compounds consistently. (We are proposing to require reporting of the linear chemical formula rather than the condensed chemical formula because the former provides

information on the structure of the fluorinated GHG or fluorinated HTF that is useful for identifying the compound and distinguishing it from other fluorinated GHGs or fluorinated HTFs that have the same number of atoms of each element in different arrangements.) Accordingly, we are proposing to require reporting all three of the following data elements to ensure that the EPA can properly classify and identify each unique compound reported:

- Chemical name. If a chemical is not included in Table A-1 of subpart A (or not listed in the Web forms in the EPA's reporting tool), then facilities or suppliers would be required to report the name using the chemical naming convention provided by IUPAC.
- CAS Registry Number. If a CAS number is not assigned or if the CAS number is not associated with a single fluorinated GHG or fluorinated heat transfer fluid, then reporters would report an identification number assigned by the EPA's Substance Registry Services. [4]
- Linear chemical formula.

Next, we are proposing to add a sentence to 40 CFR 98.3(c)(8) to clarify the missing data provisions. The proposed revision explains that missing data provisions apply not only to reported parameters, but to any parameter used to monitor or calculate emissions. Use of missing data procedures can affect the accuracy of an emission estimate regardless of whether that parameter is reported. It is the EPA's intention that the effect be documented, such that the accuracy of the reported emissions may be better understood.

We are proposing a change to 40 CFR 98.4(i) to update the content of the certificate of representation (COR). For each facility or suppler, all GHG reports and other communications are submitted by a "designated representative" of the owners and operators of the facility or supplier. The designated representative (DR) acts as a legal representative between the facility or supplier and the agency. The DR is appointed by submitting to the EPA a COR at least 60 days

[4] Substance Registry Services (SRS) is the EPA's central system for information about substances that are tracked or regulated by EPA or other sources. It is the authoritative resource for basic information about chemicals, biological organisms, and other substances of interest to EPA and its state and tribal partners. See http://ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do

prior to the deadline for submission of the initial annual GHG report. Currently, 40 CFR 98.4(i) specifies that the COR must contain the following information:

- Identification of the facility or supplier;
- Name and contact information for the DR;
- A list of the owners and operators of the facility or supplier;
- Certification statements that the DR was appointed by a binding agreement with the owners and operators, that the DR has the necessary authority to carry out the duties and responsibilities on behalf of the owners and operators, and that the owners and operators are bound by the representations, actions, inactions, or submissions of the DR; and
- Signature of the DR.

We are proposing the addition of one item to the COR, which is a list of all the 40 CFR 98 subparts under which the facility or supplier intends to report. The information on the subparts anticipated to be reported is for the EPA's internal planning and management purposes, and would streamline the EPA's internal processes related to preparing for upcoming reporting seasons. This new COR requirement would impose no new burden on reporters. The revised content of the COR would apply only to newly submitted CORs for facilities that have not previously reported to the GHGRP. The DR would not be required to re-submit a previously submitted COR to add the new information. For example, the new information would not be required for a revised COR that is submitted to change the DR, address, or list of owners. The information submitted on anticipated subpart applicability would be based on whatever applicability analysis the facility or supplier has conducted on their own to determine that Part 98 applies, and on best engineering judgment as to the specific subparts that apply at the time that the COR is submitted. There would be no legal obligation to include GHG data for a particular subpart in the annual GHG report only because that subpart was included in the list of subparts submitted in the COR. Rather, the annual report must include all of the subparts that the DR determines meet the applicability requirements of 40 CFR 98.2 at any time during a reporting

year. Also, the facility or supplier is not required to maintain any records to support the listing of subparts in the COR.

Finally, we are proposing to add provision 40 CFR 98.2(i)(6) to include a requirement that a facility must inform the EPA whenever the facility (or supplier) stops reporting under one e-GGRT identification number because the emissions (or quantity supplied) are being reported under another e-GGRT identification number. The EPA anticipates that this would occur when one facility purchases another facility (in its entirety) that is physically adjacent. The emissions from the purchased process equipment would automatically become part of the facility for the purchaser, and the facility previously reported by the seller would no longer exist. In general, the rule currently requires a facility reporting under an e-GGRT identification number to have a valid reason for discontinuing reporting under that e-GGRT identification number and to notify the EPA of that valid reason. The e-GGRT system is set up to collect such notification from the discontinuing reporter, and the EPA routinely follows up with all facilities that have discontinued reporting without providing a valid reason. On several occasions, a facility that was discontinuing reporting under its e-GGRT identification number contacted the GHGRP Help Desk in an attempt to notify the EPA that the emissions would be reported under another e-GGRT identification number. In those cases, the discontinuing reporter was looking for a formal way to transfer the reporting obligation to the other facility and confirm that the reporter was no longer responsible for reporting those emissions. The rule currently does not require reporting of any information from which the EPA could ascertain that the discontinuation of reporting was done for a valid reason or with which the discontinuing reporter could make a formal notification. To ensure that the EPA is aware of situations when an annual report for a facility or supplier is no longer required because the emissions will now be reported under a different

facility, we are proposing the following changes: if a facility reported GHG emissions in the previous year, and the GHG emissions are being reported as part of another facility in the current reporting year, the prior facility must notify the EPA of the e-GGRT facility identification number under which the emissions are reported in the current reporting year. A similar requirement would apply to suppliers. In other words, whenever a business relationship such as an acquisition, merger, or joint venture abrogates a facility or supplier that previously registered in e-GGRT and submitted an annual GHG report, the designated representative for the subsumed facility or supplier would have to report the e-GGRT identification number of the reconstituted facility or supplier. The facility identification number should be readily available to the reporter, and this change would allow the EPA to better assess compliance with the Program while providing the subsumed facility or supplier a formal method of notifying the EPA of their valid reason for discontinuing reporting. This provision would not include Onshore Petroleum and Natural Gas Production Facilities reporting under subpart W, consistent with FAQ 749[5], which currently does not require these facilities to notify the EPA when they discontinue reporting because of a change in ownership of all wells and associated equipment in a basin. In proposing this change, the EPA is seeking comment on whether requiring the reconstituted entity to report the e-GGRT identification number of the subsumed facility or supplier would impose less burden on the regulated community while achieving the same objectives.

For more information on subpart A confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

[5] The EPA publishes Frequently Asked Questions to provide general and administrative information about 40 CFR Part 98. FAQ 749 is available at: http://www.ccdsupport.com/confluence/pages/viewpage.action?pageId=198705183.

3. Other Amendments to Subpart A

For reasons described in section II.C of this preamble, we are also proposing to revise 40 CFR 98.3(h)(4) to simplify the process for requesting an extension for the reporter to respond to the EPA's questions on a submitted report or submit a revised report to correct a reporting error identified by the EPA during report verification. Currently, reporters are allowed a 45-day period to respond to the EPA's questions and may request an extension of 30 days, which is automatically granted, if needed. The Administrator may also grant an additional extension beyond the automatic 30-day extension, if the owner or operator submits a request for an additional extension at least 5 business days prior to the expiration of the automatic 30-day extension. We are proposing to remove the requirement that the request for an extension beyond the automatic 30 days must be submitted at least 5 days prior to the expiration of the automatic 30-day extension. Reporters would still be required to submit a request for the additional extension, but they may do so closer to (but not after) the expiration date of the automatic 30-day extension.

We are also proposing two amendments to subpart A of Part 98 to clarify a definition in 40 CFR 98.6. We are proposing to amend the definition of “gas collection system” to clarify that active venting systems that convey landfill gas to the surface of the landfill by mechanical convection, but the landfill gas is never recovered or thermally destroyed prior to release to the atmosphere, are not considered a landfill gas collection system. The requirements in subpart HH for gas collection systems are specific to landfill gas that is recovered or destroyed, but “active venting” systems appear to meet the definition of gas collection systems. The proposed revision clarifies that “active venting systems” are not subject to the monitoring and calculation requirements for landfills with gas collection systems.

The EPA is proposing to amend the definitions for "ventilation hole or shaft" in 40 CFR 98.6 to clarify that the term "vent hole or shaft" for mine ventilation systems includes mine portals, adits, and other mine entrances and exits used to move air from the ventilation system out of the mine. The proposed change is prompted by questions that we have received from reporters during the first four years of implementation, seeking guidance on whether these ventilation system components are considered part of the source category definition. Portal and adit are terms sometimes used to describe mine entries and shafts. The intent of the rule is to capture all points in the ventilation system where methane emissions may exhaust to the atmosphere. Adding these terms should provide clarity for reporters. We do not expect this rule change to result in an additional burden to reporters; it is a clarification to provide further guidance in applicability. However, the EPA does expect this proposed change to improve the accuracy of reporting.

4. Minor Corrections and Clarifications to Subpart A

For the reasons described in section II.D of this preamble, we are proposing several minor corrections and clarifications to subpart A of Part 98, including clarifications to definitions, editorial changes, and clarifications to reporting requirements. These minor revisions are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

B. Subpart C — General Stationary Fuel Combustion Sources

In this action, we are proposing several amendments, clarifications, and corrections to subpart C of Part 98. This section discusses the substantive changes to subpart C; additional minor amendments, corrections, and clarifications are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart C to Improve Quality of Data Collected in Part 98

For the reasons described in section II.B of this preamble, we are proposing revisions that would allow the EPA to collect data that would improve the EPA's ability to verify data under Part 98, while generally resulting in only a slight increase in burden for reporters. First, the EPA is proposing to require reporting of the moisture content used to correct the default high heating value (HHV) for wood and wood residuals (dry basis) in Table C-1, in accordance with the procedures of footnote 5 in Table C-1. The Table C-1 default HHV for wood and wood residuals assumes that the wood and wood residuals are dry (*i.e.*, zero percent moisture content). However, wood and wood residuals are often wet when combusted. Applying the wet weight of the wood to the dry basis HHV overestimates emissions, as a portion of the weight that is combusted is water.

Facilities raised this concern through the GHGRP Help Desk and the EPA responded by adding footnote 5 to Table C-1 in the 2013 Revisions Rule, which allowed reporters to correct the default dry basis HHV to a wet basis. Currently e-GGRT and IVT require the use of the default dry basis HHV when reporting wood and wood residuals using Equations C-1 and C-8. For reporters that need to correct their HHV, the only option available is to override the e-GGRT or IVT calculated value, which is on a dry basis.

The EPA is proposing to add the moisture correction calculation as a reporting element, as well as a data element that would be entered into IVT for those reporters using IVT. This would allow the EPA to verify the accuracy of the moisture content and resultant emissions. Based on current reporting year data, approximately 132 facilities (167 units) would be affected by this new data element. The EPA anticipates that the impact of this new data element will be

minimal, as moisture content is already determined by the facilities that correct the HHV of their wood products.

Because the new data element is an input to an emission equation, the EPA evaluated the data element to determine if its public release would cause disclosure concerns as was done for all inputs to equations through a previous action (79 FR 63750, October 24, 2014)[6]. In the evaluation conducted for the October 24, 2014 action, the EPA described in section 2.2 of Part 2 of the memorandum "Final Evaluation of Competitive Harm from Disclosure of 'Inputs to Equations' Data Elements Deferred to March 31, 2015," September 2014 (available in Docket Id. No. EPA-HQ-OAR-2010-0929) that data related to "process design, process performance, and/or cost to do business" could be detrimental to a firm's competitiveness. After considering this newly proposed data element, we have determined that for those subpart C combustion sources that do not meet the criteria specified in 40 CFR 98.36(f),[7] this data element fits the description of being related to "process design, process performance, and/or costs to do business." Specifically, for industrial facilities that produce wood and wood residuals as a production process byproduct (*e.g.*, pulp and paper production), the moisture content of the wood

[6] The October 24, 2014 action used the process established in the notice "Change to the Reporting Date for Certain Data Elements Required Under the Mandatory Reporting of Greenhouse Gases Rule" (76 FR 53057, August 25, 2011, hereafter referred to as the "Final Deferral Notice") and the accompanying memorandum entitled "Process for Evaluating and Potentially Amending Part 98 Inputs to Emission Equations" (Docket Id. No. EPA-HQ-OAR-2010-0929) to determine if there are any associated disclosure concerns. In the "Revisions to Reporting and Recordkeeping Requirements under the GHGRP" (79 FR 63750, October 24, 2014, hereafter referred to as the "Final Inputs Rule"), the EPA finalized an approach for addressing disclosure concerns associated with inputs to emissions equations, in which the inputs for which disclosure concerns were identified are entered and verified in the EPA's inputs verification tool (IVT). IVT is a software tool that verifies emissions without the inputs being reported to EPA. Inputs to emissions equations for which disclosure concerns have been identified are entered into the tool. IVT uses the entered inputs to calculate emission equation results. IVT does not retain the entered inputs but conducts certain checks of the inputs and calculated emissions values and generates a verification summary. The same process was used for the evaluation of this new input to equation data element.

[7] 40 CFR 98.36(f) specifies the following criteria for combustion sources: (1) the stationary fuel combustion source contains at least one combustion unit connected to a fuel-fired electric generator owned or operated by an entity that is subject to regulation of customer billing rates by the public utility commission (excluding generators that are connected to combustion units that are subject to subpart D of this part); and (2) the stationary fuel combustion source is located at a facility for which the sum of the nameplate capacities for all electric generators specified in paragraph (f)(1) of this section is greater than or equal to 1 megawatt electric output.

and wood residuals affects the heating value of the wood fuel used to produce steam for the production process. As such, moisture content could reveal information about process efficiency and the cost to produce a product. However, given the wide range of industries subject to the wood and wood residuals reporting requirements under subpart C, it is possible that there are industries that do not have concerns disclosing the proposed new data element. In light of the above, we propose to allow reporters to elect under 40 CFR 98.3(d)(3)(v) and 40 CFR 98.36(a) (for subpart C sources that do not meet the criteria specified in 40 CFR 98.36(f)) to either enter the moisture content into IVT or, if potential disclosure is not a concern to the reporter, report the data.[8] If a reporter were to elect to enter the data into IVT, the reporter would also be required to keep a record of the data as specified in proposed new 40 CFR 98.37(b)(37).

After considering whether disclosure concerns exist for those sources that meet the criteria in 40 CFR 98.36(f), the EPA has determined that the moisture content of the wood and wood residuals would not reveal any proprietary information about facility or process performance, design, and operation; cost to do business; raw material usage; or production. Site-specific fuel characteristics do not vary significantly from publicly-known average values. Additionally for the electric utilities, this sector has experienced a high level of transparency due to the practice of passing fuel costs through to paying customers. The EPA is proposing that, for sources that meet the criteria in 40 CFR 98.36(f), there are no disclosure concerns and the moisture content of the wood and wood residuals must be reported in e-GGRT.

For emissions reported using the aggregation of units (GP) and common pipe (CP) configurations, the EPA does not currently have the ability to compare emissions to the cumulative maximum rated heat input capacity for the units in the configuration. This

[8] If a reporter elects to report the moisture content of wood and wood residuals for a source that does not meet the criteria specified in 40 CFR 98.36(f), e-GGRT will require the reporter to waive the right to make confidentiality claims before reporting the moisture content via e-GGRT.

information is important for verifying these emissions. The EPA is proposing to resolve this gap in verification by requiring reporting of the cumulative maximum rated heat input capacity for all units (within the configuration) that have a maximum rated heat input capacity greater than or equal to 10 (mmBtu/hr).

When originally promulgated, 40 CFR 98.36(c) required the cumulative heat input capacity for all units in GP and CP configurations. These requirements were removed in December 2010 amendments to the Greenhouse Gas Reporting Rule (75 FR 79092, December 17, 2010). The 2010 final rule noted that for verification purposes, "the only critical data element is the maximum rated heat input capacity of the largest unit in the group" (75 FR 79117). Although the highest maximum rated heat input capacity of any unit in these configurations is useful in verifying compliance with the rule requirements, it does not provide enough information to assess the quality of emissions reported under these configurations.

Currently over 50 percent non-biogenic CO_2 reported under subpart C is reported using GP and CP configurations. Therefore, we have identified the need to obtain additional information on these reporting configurations to further assess data quality for these reported emissions. The cumulative maximum rated heat input capacity will be used to verify that emissions data are not over or under reported for GP and CP configurations.

In the December 2010 amendments (75 FR 79117), commenters highlighted the burden associated with determining the maximum rated heat input capacity and maintaining an equipment count for small domestic combustion sources (*e.g.*, water heaters, furnaces, space heaters) located at large industrial facilities. The EPA agrees with the commenters' position and believes that meaningful data verification can be achieved without requiring information on

small domestic combustions sources, as GHG emissions data are typically dominated by larger emission units.

There were approximately 7,000 GP and CP configurations reported in 2014, out of the total 18,000 configurations reported in subpart C. Of these, approximately 2,250 reporting configurations reported that the highest maximum rated heat input capacity of any unit in the configuration was less than 10 (mmBtu/hr). The total non-biogenic CO_2 reported from these 2,250 configurations was approximately 2 percent of the total non-biogenic CO_2 reported for all 7,000 GP and CP configurations. The remaining 98 percent of non-biogenic CO_2 reported came from the 4,750 GP and CP configurations that identified the highest maximum rated heat input capacity of any unit as greater than or equal to 10 (mmBtu/hr). These data provide evidence that using the heat input capacity information from units greater than or equal to 10 mmBtu/hr will allow for meaningful data validation without mandating over-burdensome requirements for reporters.

When reporting the cumulative maximum rated heat input capacity, reporters will not be required to account for units less than 10 mmBtu/hr. For GP configurations, this means that the cumulative maximum rated heat input capacity will be determined as the sum of the maximum rated heat input capacities for all units in the group that are greater than or equal to 10 (mmBtu/hr) and less than or equal to 250 (mmBtu/hr). Units with a maximum rated heat input capacity greater than 250 mmBtu/hr are not allowed to use the GP configuration. For CP configurations, the cumulative maximum rated heat input capacity will be determined as the sum of the maximum rated heat input capacities for all units served by the pipe that are greater than or equal to 10 (mmBtu/hr). Note that fuel use and corresponding emissions are still required to be

reported for units with a maximum rated heat input capacity less than 10 (mmBtu/hr). Emissions reporting of GHGs for GP and CP configurations will remain unchanged.

Approximately 2,250 existing GP and CP reporting configurations will not be affected by this new requirement. Approximately 4,750 GP and CP reporting configurations will be required to determine and report cumulative maximum rated heat input capacity. This equates to approximately 3,540 affected facilities (out of the roughly 5,925 reporting in subpart C). However, many of these affected facilities will likely benefit from not having to account for units with a heat input capacity less than 10 (mmBtu/hr). The EPA believes that the burden associated with determining the cumulative maximum rated heat input capacity for GP and CP configurations will be minimal. Existing air permits and compliance records for other federal and state regulations likely contain heat input capacity data for many of the affected sources (*i.e.*, units greater than or equal to 10 mmBtu/hr). The proposed requirement for reporting of the cumulative maximum rated heat input capacity for GP and CP reporting configurations would greatly improve the ability to verify emissions for these configurations.

For more information on subpart C confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

2. Other Amendments to Subpart C

For the reasons described in section II.C of this preamble, we are proposing revisions to the requirements of 40 CFR part 98, subpart C (General Stationary Fuel Combustion Sources) to 1) clarify the reporting requirements when the results of HHV sampling are received less frequently than monthly for certain sources; 2) streamline the conversion factors used to convert short tons to metric tons; and 3) revise Tables C-1 and C-2 to more clearly define emission factors for certain petroleum products.

First, we are proposing to amend 40 CFR 98.33(a)(2)(ii)(A) to clarify the definition of terms for Equation C-2b in cases where the results of HHV sampling are received less frequently than monthly. Reporters subject to 40 CFR 98.33(a)(2)(ii)(B) may use Equation C-2b, however the equation currently defines the frequency of HHV sampling as monthly. This proposed revision will replace the term "month" in the equation inputs "$(HHV)_I$," "$(Fuel)_I$," and "n" with the term "samples."

We are proposing changes to Tables C-1 and C-2 to remove duplication and to further classify several fuels to provide clarity. These changes are minor clarifications to existing rule requirements and, therefore, do not impact the burden on reporters. The first change that we are proposing to Table C-1 is to remove duplication of default HHV and CO_2 emission factors for petroleum coke. Petroleum coke is currently listed under both the "Petroleum products" category and "Other fuels—solid" category. To avoid confusion with the classification of this fuel, we propose to remove petroleum coke from both of these categories and to include the fuel under a new category entitled "Petroleum products—solid."

The second change to Table C-1 proposed is to move the fuel propane gas from the "Other fuels—gaseous" category into a new category entitled "Petroleum products—gaseous." Propane is also included under the "Petroleum products" category, and we are not proposing to remove propane from this category as a majority of reporters use this fuel type when reporting use of propane. To help clarify that all fuels in the "Petroleum products" category are liquid fuels, we propose to rename this category to "Petroleum products—liquid." In conjunction with the changes to Table C-1 for propane and petroleum coke, we are also proposing to change Table C-2 to further clarify that these fuels are considered petroleum products and their methane (CH_4) and N_2O emissions should be calculated and reported accordingly. Therefore we propose to

change the "Petroleum (All fuel types in Table C-1)" category to "Petroleum Products (All fuel types in Table C-1)," which will encompass all liquid, solid, and gaseous petroleum products.

We are also proposing another change to Table C-2 to further streamline the CH_4 and N_2O emission factors for fuels in the "Other fuels—solid" category. With the proposed reclassification of petroleum coke from this category to a new solid petroleum products category, the remaining fuels are municipal solid waste (MSW), tires and plastics. Both MSW and tires are listed in Table C-2 and have identical CH_4 and N_2O emission factors, however plastics are not included in the table. We are proposing to combine the MSW and tire line items into an "Other fuels—solid" category, which would encompass all three solid fuels (*i.e.*, MSW, tires and plastics).

Finally, we are proposing to update the Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples using Radiocarbon Analysis (ASTM D6866-08) to the current standard (ASTM D6866-12). The proposed change would revise references to the method in 40 CFR 98.34(d) and (e), 40 CFR 98.36(e)(2), and include a harmonizing change to 40 CFR 98.7(e)(33).

3. Minor Corrections and Clarifications to subpart C

In addition to the substantive changes proposed, as described in section II.D of this preamble, we are proposing minor revisions that are intended to clarify specific provisions in subpart C. These minor revisions are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

C. Subpart E — Adipic Acid Production

In this action, we are proposing amendments to subpart E of Part 98 (Adipic Acid Production). This section discusses all of the proposed amendments to subpart E.

1. Revisions to Subpart E to Streamline Implementation

For the reasons described in section II.A of this preamble, we are proposing one amendment that is intended to simplify and streamline the requirements of subpart E and increase the efficiency of the report submittal process. We are proposing to revise 40 CFR 98.53(a)(2) to remove the annual approval for an alternative method for determining N_2O emissions request by the reporter and the annual request approval by the EPA if the reporter's methodology has not changed.

Reporters that are subject to subpart E are allowed to use an alternative method to calculate N_2O emissions from the production of adipic acid. The alternative method must be approved by the EPA before being used to comply with subpart E. Currently, reporters who choose to use the alternative method are required to request approval on an annual basis and provide the following information:

- the calculation method for determining annual N_2O emissions;
- associated data collection procedures (parameters, how the parameters will be determined, frequency of data collection);
- initial and ongoing monitoring and quality assurance (QA)/quality control (QC) procedures;
- missing data procedures that will be applied in the event that quality-assured parameters are unavailable (*e.g.*, if a CEMS malfunctions during a unit operation);
- any N_2O emissions abatement technology that is being used on this unit or process;
- any specific test methods or industry consensus standards that would be applied (ASTM, EPA, etc.) for data collection or monitoring; and
- any data reporting elements, in addition to the elements required in the rules, which would be provided to the EPA to verify the calculated emissions using the alternative method.

In this rulemaking, the EPA is proposing to allow additional flexibility in the use of alternative methods by removing the annual approval request. Unless there have been changes in the reporter's methodology. If a reporter received approval to use an alternative method in the

previous reporting year and the methodology has not changed, the EPA is proposing that the request for use of the alternative method be automatically approved for subsequent reporting years. For most reporters, the alternative method is based on innovative methodologies that are already in practice at the facility, so the underlying monitoring, data collection, and QA/QC procedures used are unlikely to change from one reporting year to the next. The reporter would only need to notify the EPA that it is using an already approved alternative method. This notification would be included in the annual report submission. If, however, a reporter makes any changes to the previously-approved alternative method, then it must request permission to use the revised method as stated in 40 CFR 98.53(a)(2). Not only would this proposed change add flexibility to the reporters, it would also reduce the burden for reporters to comply with subpart E. By requiring requests only for new approvals or for methodologies that have changed since prior approval, the EPA burden required to review and approve the methodologies would also be reduced.

2. Revisions to Subpart E to Improve the Quality of Data Collected under Part 98 and Improve the U.S. GHG Inventory

For the reasons described in section II.B of this preamble, we are proposing one amendment that is intended to improve the quality of data collected under subpart E while generally resulting in only a slight increase in burden for reporters. We are proposing to revise 40 CFR 98.56(f) to require reporting of the date of installation of any N_2O abatement technology (if applicable). This information is readily available or already collected by reporters, and would not require additional data collection or monitoring. This data element could be carried over from one reporting year to the next. The reporter would not be required to make changes unless additional abatement technology is installed at a later date. The addition of this data element

would help improve our understanding of the use and trends in emissions reduction technologies and the accuracy of the U.S. GHG Inventory by improving the accuracy of trend estimates for this sector. Specifically, the proposed data element would allow for improved analysis of emissions by enabling the EPA to more accurately apply the applicable emission factors over specific time periods, depending on whether the emissions were exhausted to an N_2O abatement technology during that time period. For more information on subpart E confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

D. Subpart F — Aluminum Production

In this action, we are proposing several technical amendments to 40 CFR part 98, subpart F (Aluminum Production). This section discusses the substantive changes to subpart F; additional minor corrections and clarifications are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart F to Improve Quality of Data Collected in Part 98 and Improve the U.S. GHG Inventory

For the reasons described in section II.B of this preamble, we are proposing several amendments to 40 CFR 98, subpart F to improve the quality of the data collected under Part 98 and improve the U.S. GHG Inventory. We are proposing to require reporting of two data elements that influence perfluorocarbon (PFC) emissions from aluminum production: annual average anode effect minutes per cell-day and annual smelter-specific slope coefficients. These proposed revisions are intended to collect more accurate and informative data. As discussed in section II.B of this preamble, these proposed revisions would allow the EPA to collect data that would improve the EPA's understanding of GHG emissions from aluminum production while generally resulting in only a slight increase in burden for reporters.

The annual average anode effect minutes per cell day is a measure of the fraction of the time during which aluminum electrolysis cells are operating that the cells are experiencing process disturbances known as anode effects. PFC emissions from aluminum production are closely associated with the frequency and duration of anode effects.[9] Smelter-specific slope coefficients are a measure of the relationship between average anode effect minutes per cell day, aluminum production, and PFC emissions at individual smelters.

Both data elements were included in the 2009 Greenhouse Gas Reporting Rule. However, in the Final Deferral Notice published on August 25, 2011, we deferred reporting of the data elements because they were classified as inputs to emission equations (76 FR 53057).[10] The two data elements were considered inputs into Equation F-2. In the Final Inputs Rule (79 FR 63750, October 24, 2014), we decided not to collect these data elements and to include the inputs into Equation F-2 in IVT. However, after further investigation, we have determined that for average anode effect minutes per cell day, the actual input in Equation F-2 is a monthly average, while the removed reporting element is an annual average.[11] Consequently, annual average anode effect minutes per cell day is not an input to an emission equation and, if restored as a reporting element, would be eligible for confidential treatment. As discussed in section IV of this preamble, we are proposing to determine that the annual average of the anode effect minutes per cell day is CBI.

[9] Recent research has revealed that PFC emissions may also occur from some aluminum smelters in the absence of anode effects as those are traditionally defined. These "non-anode-effect emissions" are particularly prevalent in recently built smelters that use very large cells, *i.e.*, cells containing 40 or more anodes. Most U.S. smelters do not use such large cells.

[10] See the final rule titled "Revisions to Reporting and Recordkeeping Requirements, and Confidentiality Determinations Under the Greenhouse Gas Reporting Program," (79 FR 63753-54, October 24, 2014) for a full discussion of the history of EPA's treatment of inputs to emission equations under the GHGRP.

[11] Although a monthly total of metal production is used in Equation F-2, the annual total metal production is used in Equations F-5 and F-6; thus, we are not proposing to collect annual metal production.

IVT currently requires the entry of monthly anode effect minutes and smelter-specific slope coefficients (along with monthly metal production), allowing PFC emission estimates from smelters to be verified. However, our interest in anode effect minutes and slope coefficients goes beyond verification of emission estimates. Specifically, the annual average of anode effect minutes is of interest because it provides insight into one of the key drivers of PFC emissions from primary aluminum production at the facility and U.S. level. This data element helps us to understand why emissions have increased or decreased in a particular year or over longer periods. Thus, it is important for informing the development of future GHG policies and programs. In addition, it is important for explaining U.S. emission trends through the U.S. GHG Inventory. Before the GHGRP became effective, anode effect minutes (as well as smelter-specific slope coefficients) had been provided to the EPA by most U.S. smelters under the Voluntary Aluminum Industrial Partnership (VAIP), although anode effect minutes was reported as a company-wide (rather than smelter-specific) average by some companies in some years.[12]

Smelter-specific slope coefficients also influence emissions. Because they are relatively stable over time (under subpart F, they are required to be re-measured every ten years), they do not drive trends in the same way that metal production and anode effect minutes do. However, they do contribute to differences in emission rates from different smelters and are therefore of interest for purposes of informing GHG policies and programs.

Smelter-specific slope coefficients are inputs to emission equations (*i.e.*, to Equation F-2). In the analysis titled, "Final Evaluation of Competitive Harm from Disclosure of "Inputs to Equations" Data Elements Deferred to March 31, 2015" (September, 2014, available in docket EPA–HQ–OAR–2010–0929), we concluded that smelter-specific slope coefficients provided

[12] Although the VAIP program continues, GHGRP reporting supplanted reporting under the VAIP.

data related to process efficiency and also provided data that could be used to calculate the mass of aluminum produced if both the anode effect minutes and reported GHG emissions were also known. (The product of the slope coefficient, monthly metal produced, and monthly average anode effect minutes is the CF_4 emissions from the smelter or potline.) However, we are now revisiting this conclusion in light of our proposed determination that the annual average of the anode effect minutes is CBI. Without data on anode effect minutes, data on smelter-specific slope coefficients pose few, if any, disclosure concerns. Most variability in process efficiency is driven by anode effect minutes, not smelter-specific slope coefficients, and it is not possible to back-calculate metal production without anode effect minutes.[13] Therefore, in conjunction with our proposed determination that the annual average of the anode effect minutes is CBI, we are proposing to revise the findings in the Final Inputs Rule and to now find no disclosure concerns associated with this input to equation, and are proposing to collect this data. Note that we would continue to use IVT to verify the results of Equation F-2 because we would be collecting only one of the three inputs to this equation.[14]

2. Minor Corrections and Clarifications to subpart F

In addition to the substantive changes proposed, as described in section II.D of this preamble, we are proposing minor revisions that are intended to clarify specific provisions in subpart F. These minor corrections are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

[13] A review of the slope coefficients and anode effect minutes provided under the VAIP showed that the relative standard deviation of smelter-specific slope coefficients was 32 percent, while the relative standard deviation of anode effect minutes was 95 percent. The comparison was made for the year 2007 because that is the most recent year for which detailed smelter-specific slope coefficients were available.

[14] IVT will use the data element reported to e-GGRT to calculate the emissions value.

E. Subpart G — Ammonia Manufacturing

In this action, we are proposing multiple amendments to subpart G of Part 98 (Ammonia Manufacturing). This section discusses all of the proposed changes to subpart G.

1. Revisions to Subpart G to Improve Quality of Data Collected in Part 98 and Improve the U.S. GHG Inventory

For the reasons described in section II.B of this preamble, we are proposing revisions that would allow the EPA to collect data that would improve the EPA's understanding of GHG emissions from ammonia manufacturing while generally resulting in only a slight increase in burden for reporters. Specifically, we are proposing to add three data reporting elements. We are proposing to amend 40 CFR 98.76(a) to require reporting of annual ammonia production for facilities where a CEMS is used to measure CO_2 emissions, 40 CFR 98.76(b)(2) to require reporting of annual feedstock consumption, and 40 CFR 98.76(b)(7) to require reporting of annual average carbon content. These data elements are readily available so these proposed changes would have no impact on burden for the reporters.

The addition of these data elements would improve the EPA's ability to verify reported GHGRP emissions, and enable the EPA to transparently apply more advanced calculation methods[15] (based on total fuel requirements) for determining emissions from ammonia production within the U.S. GHG Inventory, using aggregated facility level GHGRP data. Currently, the annual U.S. GHG Inventory emissions estimates are based on multiplication of a technology-feedstock type specific default emission factor and national ammonia production. Further data on feedstock consumption and associated carbon contents would assist the EPA in

[15] See Equation 3.4 (Tier 3), p. 3.13 and 3.15. 2006 IPCC Guidelines for National Inventories, Volume 3, Chapter 3, Section 3.2: Ammonia Production; Section 4.5 (p. 4-20) of U.S. Inventory. Available at: http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2015-Chapter-4-Industrial-Processes.pdf.

reconciling CO_2 estimates of non-energy use of fuels in the energy sector and CO_2 process emissions from ammonia production. Finally, collecting annual ammonia production from facilities where a CEMS is used to measure CO_2 emissions ensures data completeness if ammonia manufacturers begin employing CEMS in the future, and enhances the EPA's ability to verify reported information. Currently, annual ammonia production is collected on a facility basis, but only for facilities without CO_2 CEMS. For more information on subpart G confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

2. Other Amendments to Subpart G

For the reasons described in section II.C of this preamble, we are proposing multiple amendments to Subpart G to clarify the EPA's intentions related to the reporting of annual ammonia production and annual methanol production. We are proposing to amend 40 CFR 98.74(f) to read, "You may use company records or an engineering estimate to determine the annual ammonia production and the annual methanol production." We are also proposing to clarify the requirement to report annual methanol production for each process unit in 40 CFR 98.76(b)(15) by adding that this information must be reported "regardless of whether the methanol is subsequently destroyed, vented, or sold as product." These amendments will clarify the original intent of the requirements and reduce uncertainty from reporters by addressing multiple Help Desk questions, including questions related to the reporting of methanol that were raised during the RY2014 reporting period.

F. Subpart I — Electronics Manufacturing

In this action, we are proposing several amendments, clarifications, and corrections to subpart I of Part 98 (Electronics Manufacturing). The reporting requirements for the electronics

manufacturing sector were initially promulgated under subpart I on December 1, 2010 (75 FR 74774). Since the promulgation of that final rule, the EPA has published several rules to amend the calculation, monitoring, and reporting provisions of subpart I to respond to concerns raised by reporters and representatives from the semiconductor industry. Notably, the EPA finalized substantial amendments to provisions in subpart I on November 13, 2013 (78 FR 68162). These amendments included significant revisions to the methods for calculating GHG emissions, including revised default emission factors and the addition of a new stack test methodology, as well as substantial revisions to monitoring methodologies, data reporting and recordkeeping requirements, and clarifications to terms and definitions. These amendments became effective on January 1, 2014, and reporters used the revised requirements in the submittal of their annual reports for RY2014.

In this action, we are not proposing revisions that would include significant changes to the calculation methodologies, monitoring provisions, or data reporting and recordkeeping requirements of subpart I. Rather, we are proposing revisions that we have identified following implementation of the November 13, 2013 final rule and through discussions with industry stakeholders on how to improve the emissions estimates from the electronics manufacturing sector. These proposed changes are needed to improve the clarity of the calculation requirements and quality of the data collected under subpart I and to improve the EPA's understanding of GHG emissions from the electronics manufacturing sector.

This section discusses the substantive changes to subpart I; additional minor amendments, corrections, and clarifications are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart I to Improve the Quality of Data Collected under Part 98

For the reasons described in section II.B of this preamble, the EPA is proposing several amendments to subpart I that would improve the quality of the data collected under the GHGRP. As discussed in section II.B of this preamble, we are proposing revisions that would allow the EPA to collect more accurate and detailed data which would improve the EPA's understanding of sector GHG emissions, while generally resulting in only a slight increase in burden for reporters.

First, the EPA is proposing to revise Equation I-24, including revising the name to Equation I-24A, which calculates the weighted-average fraction of a fluorinated GHG destroyed or removed in a fab using the stack testing methodology in 40 CFR 98.93(i), to incorporate two changes. First, instead of calculating the weighted-average fraction of gas destroyed or removed weighted by the consumption of that gas in different process types, the EPA is proposing to revise the equation so that the average fraction destroyed or removed is weighted by the estimated uncontrolled emissions of that gas from different process types. This change is needed to address the fact that the same gas can have different emissions when used in different process types, and these differences could potentially lead to errors in the calculation of the fraction of gas destroyed or removed, especially at facilities with a large percentage of tools fitted with abatement. To calculate the estimated uncontrolled emissions of each gas, the EPA is proposing to use the input gas emission factors from Tables I-3 to I-7 of subpart I and the consumption of each gas in each process type for each fab.

The second proposed change is to create a second equation (Equation I-24B) in 40 CFR 98.93(i) to calculate the weighted-average fraction of fluorinated GHG by-product gas “k” destroyed or removed in abatement systems in each fab using the stack testing methodology. This change is needed to clarify how the term d_{kf}, which is used in several other equations in

subpart I, should be calculated. This second equation would also address the fact that the same by-product gas can be formed at different rates from different input gas and process combinations, which could potentially lead to errors in the calculation of the average fraction of by-product gas destroyed or removed, especially at facilities with a large percentage of tools fitted with abatement. The EPA is also proposing conforming changes throughout Subpart I to the rule sections where Equation I-24A and I-24B should be referenced.

Finally, for the triennial technology report required of certain facilities as specified in 40 CFR 98.96(y), the EPA is proposing to specify that reporters that are providing any utilization and by-product formation rates and/or destruction or removal efficiency data must also include information on the methods and conditions under which the data were collected, where such information is available. The triennial report would describe, for any utilization, by-product formation rate, and/or destruction or removal efficiency data submitted: the methods used for the measurements, the wafer size, film type being manufactured, substrate type, the linewidth or technology node, process type, process subtype for chamber clean processes, the input gases used and measured, the utilization rates measured, and the by-product formation rates measured, where this information is available. All of these data elements, with the exception of substrate type and linewidth, were submitted with the emission factor measurements provided to the EPA by semiconductor manufacturers during the development of the 2010 and 2013 final rules. This information is necessary to enable the EPA to better understand the data being submitted and to better apply it in the development of new or revised emission factors. Without collecting this data, the agency would not be able to effectively evaluate how emissions may vary by wafer size, film type, substrate type, linewidth or technology node, and process type or process subtype. The current subpart I is based on the recognition that emission factors vary significantly by wafer size

and process type and subtype, and given the high rate of technical evolution in this sector, film type, substrate type, and linewidth may also increasingly affect emission factors. Additionally, the input gases used, methods used for measurement, and measured utilization rates and byproduct formation rates are vital for the development of accurate and useful emission factors.

For more information on subpart I confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

2. Minor Corrections and Clarifications to Subpart I

For the reasons described in section II.D of this preamble, we are proposing several minor corrections and clarification to subpart I of Part 98, including editorial changes, harmonizing changes, and clarifications to reporting requirements. These minor revisions are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

G. Subpart N – Glass Production

In this action, we are proposing amendments to subpart N of Part 98 (Glass Production). This section discusses the substantive changes to subpart N; additional minor corrections are summarized in the Table of Revisions available in the docket for this rulemaking (Docket ID No. EPA-HQ-OAR-2015-0526).

For the reasons described in section II.C of this preamble, we are proposing amendments that are intended to clarify the rule requirements in subpart N, while resulting in no impact on burden for reporters. Specifically, the changes clarify that a default value of 1.0 can be used for the fraction of calcination and the carbonate mass fraction for each carbonate type contained in the raw materials charged to the furnace. The current rule is unclear as to whether a reporter must perform a chemical analysis if they select to use a default value of 1.0. We are proposing to

revise 40 CFR 98.144(b), 40 CFR 98.144(c), 40 CFR 98.144(d), 40 CFR 98.146(b)(5), and 40 CFR 98.146(b)(7) to clarify that no further chemical analysis is required if the default value of 1.0 is selected. These amendments will clarify the original intent of the requirements and address multiple Help Desk questions. Additional minor editorial corrections may be found in the Table of Revisions in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

H. Subpart O — HCFC-22 Production and HFC-23 Destruction

In this action we are proposing several amendments to subpart O of Part 98 (HCFC-22 Production and HFC-23 Destruction). This section discusses all of the changes to subpart O.

1. Revisions to Subpart O to Streamline Implementation

For the reasons described in section II.A of this preamble, we are proposing several amendments to subpart O that are intended to simplify and streamline GHGRP requirements and increase the efficiency of the report submittal process, generally resulting in a decrease in burden on reporters. We are proposing to revise subpart O to remove three reporting requirements related to the revised destruction efficiency that facilities are required to calculate in the event that the HFC-23 concentration that they annually measure at the outlet of the destruction device exceeds the concentration measured during the performance test that is the basis for the current destruction efficiency. The reporting requirements are found at 40 CFR 98.156(d)(2), (3), and (4) and include, respectively, the concentration (mass fraction) of HFC-23 at the outlet of the destruction device, the flow rate at the outlet of the destruction device in kilograms per hour (kg/hr), and the emission rate (in kg/hr) calculated from these two parameters. These reporting requirements were originally intended to allow us to verify the calculation of a revised destruction efficiency. However, the requirements to report the revised destruction efficiency (the result of the calculation) and the flow rate of HFC-23 being fed into the destruction device

(another input into the calculation) were removed by the Final Inputs Rule, and verification of HFC-23 emissions, including their destruction, is now conducted by the IVT. Thus, reporting these data elements to the EPA is no longer needed.

2. Revisions to Subpart O to Improve the Quality of Data Collected under Part 98 and Improve the U.S. GHG Inventory

We are also proposing revisions to subpart O to 1) reinstate in 40 CFR 98.156(d) reporting of the method used to calculate the revised destruction efficiency, and 2) require facilities to report HCFC-22 production and HFC-23 emissions for each HCFC-22 production process rather than for the facility as a whole. As discussed in section II.B of this preamble, we are proposing revisions that would allow the EPA to collect data that would improve the EPA's understanding of GHG emissions from HCFC-22 production and HFC-23 destruction while generally resulting in only a slight increase in burden for reporters.

The requirement to report the method used to calculate the revised destruction efficiency (not an input to emission equation) was inadvertently removed by the Final Inputs Rule. We are proposing to reinstate this requirement because it is useful for understanding data quality, specifically, the rigor of the method used to revise the destruction efficiency.

Subpart O currently requires facilities to report production and emissions information at the facility level although these quantities are monitored and calculated at the process level. We are proposing to revise the reporting requirements in 40 CFR 98.156(a) to require that facilities report production and emissions information for each HCFC-22 production process. At the time the EPA finalized the subpart O requirements (74 FR 56260, October 30, 2009), we had intended to collect data on individual HCFC-22 processes, with the understanding that each facility had one HCFC-22 process. We have learned since that time that some facilities may have more than

one HCFC-22 process and we are proposing to revise the rule to require reporting for each individual process. In the event that a facility has more than one HCFC-22 production process, this would provide more precise information that would allow us to better verify emissions and understand HFC-23 trends.

Reporters in this subpart already monitor, estimate, and record process and emissions data on a process basis per 40 CFR 98.153; therefore, these proposed rule revisions to report the production and emissions data on a process basis are not expected to significantly increase burden. For more information on subpart O confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

I. Subpart Q – Iron and Steel Production

In this action we are proposing amendments to subpart Q of Part 98 (Iron and Steel Production). This section discusses one substantive change to subpart Q; additional minor amendments, corrections, and clarifications are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

A revision is being made to align with revisions being proposed for subpart Y (Petroleum Refineries). Under 40 CFR 98.172(b), facilities that report to subpart Q are referred to provisions in 40 CFR part 98, subpart Y for reporting CO_2 emissions from flares that burn blast furnace gas or coke oven gas. Subpart Q reporters should refer to section III.M.1 of this preamble for proposed revisions to subpart Y that would clarify that facilities should exclude pilot gas from the flare gas GHG emissions. As discussed in section II.A of this preamble, the proposed revisions would simplify data collection and may decrease the burden associated with monitoring the flare gas.

J. Subpart S — Lime Manufacturing

In this action, we are proposing amendments to subpart S of Part 98 (Lime Manufacturing). This section discusses all the proposed amendments to subpart S.

For the reasons described in section II.B of this preamble, the EPA is proposing several revisions to subpart S to improve the quality of data collected under Part 98. We are proposing to require reporting of three data elements that influence CO_2 emissions from lime manufacturing: annual emission factors for each lime product type produced, annual emission factors for each calcined byproduct/waste by lime type that is sold, and annual average results of chemical composition analysis of each type of lime product produced and calcined byproduct/waste sold. As discussed in section II.B of this preamble, we are proposing revisions that would allow the EPA to collect data to improve the EPA's understanding of GHG emissions from lime manufacturing and the U.S. GHG Inventory while generally resulting in only a slight increase in burden for reporters.

Similar data elements were included in the 2009 Greenhouse Gas Reporting Rule; however, these data elements were monthly values, listed in 40 CFR 98.196(b)(2), 40 CFR 98.196(b)(3), and 40 CFR 98.196(b)(5). However, in a final rule published on August 25, 2011, we deferred reporting of the data elements because they were inputs to emission equations (76 FR 53057). In the Final Inputs Rule (79 FR 63750, October 24, 2014), we identified disclosure concerns with these data elements and therefore decided not to collect these monthly data elements and to include the inputs from Equations S-1 and S-2 in IVT.

IVT currently requires the entry of monthly calcium oxide and magnesium oxide content for Equation S-1, outputting the monthly emission factor for lime type; monthly calcium oxide and magnesium oxide content for Equation S-2, outputting the monthly emission factor for

calcined lime byproduct/waste type sold; calcium oxide and magnesium oxide content, and annual weight or mass of calcined byproducts or wastes for lime type that is not sold for Equation S-3, outputting the annual CO_2 emissions for calcined lime byproduct or waste type that is not sold; and monthly weight or mass of lime type produced, monthly weight or mass of calcined byproducts or wastes sold for Equation S-4, outputting the annual CO_2 process emissions from lime production from all lime kilns. The IVT inputs allow us to verify CO_2 emissions from lime kilns.

Collecting the annual emission factors for each lime product type produced, annual emission factors for each calcined byproduct/waste by lime type that is sold, and annual average results of chemical composition analysis of each type of lime product produced and calcined byproduct/waste sold would allow us to understand why emissions have increased or decreased in a particular year or over longer periods. Thus, they are important for informing the development of future GHG policies and programs. In addition, they are important for explaining U.S. emission trends through the U.S. GHG Inventory. These annual values are not inputs to equations; as described in section IV of this preamble, we are proposing that these data elements be eligible for confidential treatment.

For more information on subpart S confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

K. Subpart V — Nitric Acid Production

In this action, we are proposing three amendments to subpart V of Part 98 (Nitric Acid Production). This section discusses all of the proposed changes to subpart V.

1. Revisions to Subpart V to Streamline Implementation

For the reasons described in section II.A of this preamble, we are proposing one amendment that is intended to simplify and streamline the requirements of subpart V and increase the efficiency of the report submittal process. We are proposing to revise 40 CFR 98.223(a)(2) to conditionally remove the annual approval request by the reporter and the annual request approval by the EPA. As further discussed in section III.C of this preamble for subpart E, the EPA is proposing that the request for use of the alternative method be automatically approved for the next reporting year if the reporter received approval to use an alternative method in the previous reporting year and the method has not changed.

2. Revisions to Subpart V to Improve the Quality of Data Collected under Part 98

For the reasons described in section II.B of this preamble, we are proposing two amendments that are intended to improve the quality of data collected under subpart V that would result in a moderate increase in burden for reporters. First, we are proposing to revise 40 CFR 98.220 to change the definition of the source category to require reporting from all reporters that produce nitric acid, regardless of the nitric acid strength. The subpart V definition was based on the Standards of Performance for Nitric Acid Plants in 40 CFR Part 60 (77 FR 48433, August 14, 2012) which covers the emissions of nitrogen oxides (NO_X) from the production of weak nitric acid (specifically between 30 percent and 70 percent in strength). Weak nitric acid is produced through a three step process. The majority of N_2O emissions from nitric acid production occur during ammonia oxidation, which is the first step in the process.

High-strength nitric acid is produced by two different methods. The first method begins with producing weak nitric acid and then uses extractive distillation to concentrate the nitric acid. Since N_2O emissions occur only during weak nitric acid production and the production of weak

nitric acid is covered by the existing source category definition, N_2O emissions from this high-strength nitric acid production method are covered by the existing nitric acid source category definition. The second method is an extended version of the weak nitric acid production process, meaning that the high-strength nitric acid is produced in a single nitric acid train rather than two separate processes. This combined process is not currently covered by the existing source category definition, even though the amount of N_2O emissions from the process would be similar to the weak nitric acid production process.

When the Greenhouse Gas Reporting Rule was published in 2009, only one nitric acid plant in the United States produced nitric acid greater than 70 percent in strength. In the interim, further research has indicated the existence of three other nitric acid trains capable of producing high-strength nitric acid, including one existing plant and two potential plants becoming operational as early as the end of 2015. See the memorandum, "Re: Strong Nitric Acid Facilities in the U.S." from Natalie Tang, EPA to Alexis McKittrick and Mausami Desai, EPA, dated January 29, 2015, in Docket Id. No. EPA-HQ-OAR-2015-0526.

Because of increased usage of the high-strength nitric acid process in the United States, we are proposing that the definition of nitric acid be updated to apply to all nitric acid strengths to ensure that subpart V reporting captures all N_2O emissions related to the production of nitric acid. By revising the definition, the rule would avoid confusion and ensure that all nitric acid trains and all N_2O emissions are subject to subpart V. The applicability change would help improve the completeness of reporting under subpart V and further standardize Part 98 to be consistent with Intergovernmental Panel for Climate Change (IPCC) guidance.

We are also proposing to revise 40 CFR 98.226(h) to require reporting of the date of installation of any N_2O abatement technology (if applicable). This date is readily available or

already collected by reporters, and would not require additional data collection or monitoring. This data element could be carried over from one reporting year to the next. The reporter would not be required to make changes unless additional abatement technology is installed at a later date. The addition of this data element would help improve the accuracy of the U.S. GHG Inventory by improving the accuracy of trend estimates for this sector, while generally resulting in only a slight increase in burden. Specifically, the proposed data element would allow for improved analysis of emissions by enabling the EPA to more accurately apply the applicable emission factors over specific time periods, depending on whether the emissions were exhausted to an N_2O abatement technology during that time period. For more information on subpart V confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

L. Subpart X — Petrochemical Production

In this action we are proposing several amendments to 40 CFR part 98, subpart X (Petrochemical Production). This section discusses the substantive changes to subpart X; additional minor amendments, corrections, and clarifications are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart X to Streamline Implementation

For the reasons described in section II.A of this preamble, we are proposing amendments to subpart X that are intended to simplify, streamline, and align with other proposed GHGRP requirements, which would generally result in a decrease in burden for reporters. Under 40 CFR 98.243(c), facilities that report to subpart X are referred to provisions in subpart Y for reporting CO_2, CH_4, and N_2O emissions from flares. Subpart X reporters should refer to section III.M.1 of

this preamble for proposed revisions to subpart Y that would clarify that facilities have the option to exclude pilot gas from the flare gas GHG emissions. As discussed in section II.A of this preamble, the proposed revisions would simplify data collection and may decrease the burden associated with monitoring the flare gas.

The EPA is also proposing to amend 40 CFR 98.246(a)(5) to allow operators of an integrated ethylene dichloride (EDC) and vinyl chloride monomer (VCM) process to report either the measured quantity of EDC produced or both the measured quantity of VCM and an estimate of the amount of EDC produced as an intermediate in the process. We are also proposing to modify 40 CFR 98.240(a) to indicate that a reporter may elect to consider the entire integrated process (rather than just the EDC operations) to be the petrochemical process for the purposes of complying with the mass balance method.

Subpart X currently requires EDC manufacturers to perform the mass balance around operations involved in the production of the EDC, including situations where EDC is produced as an intermediate in the production of VCM. In a letter received from Occidental Chemical Company titled "Request to Consider IPCC Balanced EDC/VCM Process Studies and Data for the Elimination of e-GGRT Validation Messages at VCM Production Facilities Reporting Under Subpart X," dated July 10, 2015, industry representatives indicated that an integrated EDC/VCM process is a continuous process with EDC produced as an intermediate that is not stored or measured. As an alternative to incurring the burden of modifying the process to enable measurement of the intermediate EDC stream, Occidental Chemical Company has requested that subpart X reporters be allowed to perform the mass balance over the entire integrated process and, for the quantity of petrochemical produced, report the quantity of VCM produced instead of the amount of EDC produced. Conducting the mass balance over the entire integrated process is

acceptable to the EPA because the CO_2 process emissions (from oxidation of ethylene in the oxychlorination process to produce EDC) and emissions from combustion of vent gases from the EDC operations are calculated under both methods. The alternative method also would estimate additional CO_2 emissions for combustion of both vent gases and liquid wastes from the VCM operations.

Under the proposed optional method, carbon emitted in vent streams from VCM operations and carbon in liquid wastes that are combusted would be assumed to be converted to CO_2. For most facilities, using the optional method likely means either a more complete reporting of total facility emissions or a shift from reporting under subpart C (if the subpart C applicability criteria are met) to reporting under subpart X. Facilities have indicated that vent gases from the VCM operations are combusted, typically in the same combustion unit as the vent gases from the EDC operations. Thus, the assumption that carbon in such vent streams is converted to CO_2 is expected to be valid. Liquid waste from the VCM operations that is not combusted would be included as a product for the purposes of the mass balance and, thus, any carbon in such stream would be subtracted from the total inlet carbon and not attributed to CO_2 emissions.

In addition to conducting the mass balance over the entire integrated process, the EPA is proposing that facilities electing to use this optional method would report both the measured amount of VCM produced and an estimate of the amount of EDC produced as an intermediate. Reporting the amount of VCM would help the EPA to verify the estimate of EDC reported. Reporting the estimate of EDC produced would enable the EPA to determine if there is a statistically significant difference in average emissions per metric ton of EDC between results

reported by facilities that use the option for integrated processes versus results for facilities that report only for EDC operations.

The proposed change to 40 CFR 98.240(a) would harmonize the proposed integrated EDC/VCM mass balance option with other requirements related to petrochemical processes (or process units) in subpart X. For example, the mass balance calculation requirements in 40 CFR 98.243(c) and reporting requirements in 40 CFR 98.246(a) are per petrochemical "process unit." Thus, considering the entire integrated process to be the petrochemical process unit clarifies that these calculation and reporting requirements apply to the entire integrated process under the option, and not to just the EDC portion of the process.

It is anticipated that the proposed amendments would reduce the compliance burden by not requiring monitoring equipment and/or sampling and analysis of an intermediate EDC stream just for the purpose of complying with subpart X. Instead, facilities would be allowed to measure the final product VCM, which is likely already being measured for other business reasons. A few facilities may have a liquid waste stream from the VCM operations that is not combusted. Such streams would need to be measured and included as products in the mass balance. The potential increase in burden for measurement of such streams is expected to be more than offset by the reduction for not measuring the intermediate EDC stream because not all facilities will have a liquid waste stream that is not combusted, and a waste stream is an output that would be more readily measured than an intermediate that is not stored.

2. Revisions to Subpart X to Improve the U.S. GHG Inventory

For the reasons described in section II.B of this preamble, we are proposing to amend subpart X to collect additional data to help improve estimates included in the U.S. GHG Inventory. The EPA is proposing to add reporting requirements for facilities that use the mass

balance approach to determine emissions under 40 CFR 98.243(c) to report the annual average of the measurements of the carbon content and molecular weight of each feedstock and product reported under subpart X. Much of these data are currently required to be determined and retained per the recordkeeping requirements in 40 CFR 98.247, so adding the reporting requirement to report annual averages adds very little burden to reporters. These additional data elements will be aggregated to the national level and used to improve national emission estimates in the U.S. GHG Inventory for several reasons.

First, these data points will be helpful for understanding non-energy uses of fossil fuels by the chemical industry, so they can more accurately be allocated between the industrial process and energy sectors of the U.S. GHG Inventory. As noted in the U.S. GHG Inventory, currently some degree of double-counting may occur between CO_2 estimates of non-energy use of fuels in the energy sector and CO_2 process emissions from petrochemical production in this sector. Complete data integration is not feasible at this time as feedstock data from the Energy Information Administration (EIA) used to estimate non-energy uses of fuels are aggregated by fuel type, rather than disaggregated by both fuel type and particular industries (*e.g.*, petrochemical production). The EPA, through the GHGRP, obtained complete data on quantities of fuel consumed as feedstocks by petrochemical producers for the first time in 2015. The carbon content and molecular weight of feedstocks will facilitate conversion of the GHGRP feedstock quantity data (by fuel type) into energy units for integration with EIA data to ensure appropriate allocation of emissions across sectors in the national U.S. GHG Inventory, including addressing issues with double-counting.

Second, having annually averaged carbon content and molecular weight for products and feedstocks derived from facility-level GHGRP data would enable the EPA to transparently apply

the IPCC mass balance method[16] for determining emissions from petrochemical production in the U.S. GHG Inventory. Currently, only the aggregated facility-level products from application of the GHGRP mass balance are aggregated and published in the U.S. GHG Inventory.

For more information on subpart X confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

3. Minor Corrections and Clarifications to Subpart X

For the reasons described in section II.D of this preamble, we are proposing several minor corrections, and clarifications to subpart X of Part 98. These minor revisions are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

M. Subpart Y — Petroleum Refineries

In this action we are proposing several amendments to 40 CFR part 98, subpart Y (Petroleum Refineries). This section discusses the substantive changes to subpart Y; additional minor amendments, corrections, and clarifications are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart Y to Streamline Implementation

For the reasons described in section II.A of this preamble, we are proposing several amendments that are intended to simplify and streamline the requirements of subpart Y. To reduce reporter burden, the EPA is proposing to clarify in this rulemaking that pilot gas, which is considered the gas used to maintain a pilot flame at the flare tip, may be excluded from the quantity of flare gas used to perform GHG emissions calculations. As described below, the quantity of GHG emissions associated with pilot gas is very small relative to the total GHG

[16] See Equation 3.17, p. 3.67. 2006 IPCC Guidelines for National Inventories, Volume 3, Chapter 3, Section 3.9: Petrochemical and Carbon Black Production.

emissions from a flare at petroleum refineries, petrochemical production facilities, and iron and steel production facilities, and monitoring the quantity of pilot gas may impose additional burden on some facilities.

Generally flares combust waste gas (excess gas generated by the facility that needs disposal which the flare was designed to treat/destroy), purge/sweep gas (gas that must be added to the flare header system or to the base of the flare in order to prevent oxygen ingress during periods of low waste gas flow), and pilot gas (gas used to maintain a pilot flame at the flare tip). The majority of gas combusted by a flare is waste gas. The remaining gas combusted by the flare is comprised of purge/sweep and pilot gas. The amount of purge/sweep gas needed is dependent on the complexity of the flare gas header system and the flare diameter and tip design. As discussed in the memorandum "Proposed Changes to Flare Pilot Gas Reporting Requirements under the Greenhouse Gas Reporting Program (GHGRP)" from Jeff Coburn, Leslie Pearce and Kevin Bradley, RTI to Brian Cook, EPA, dated July 10, 2015 (see Docket Id. No. EPA-HQ-OAR-2015-0526), flares generally require at least 0.1 to 0.2 foot per second (ft/s) flow velocity at the tip to prevent oxygen ingress, but can be significantly higher for flares with complex header systems. For a 2 foot diameter flare, this translates to a minimum flow of 1,100 to 2,200 cubic feet per hour or 1 to 2 mmBtu/hr. Recommended heat rate for industrial flare pilots is approximately 0.05 mmBtu/hr, so GHG emissions from flare pilot gas are typically 10 percent or less of the emissions from the flare purge/sweep gas while the flare is on standby (*i.e.*, no active waste gas flow). Therefore, we expect the resultant GHG emissions from pilot gas to be low, especially in the context of the broader flare emissions.

Further, it is difficult for facilities to estimate the quantities of pilot gas without the use of a meter. Facilities generally measure the flare gas, but do not always have unit-specific meters

installed for the gas used for the pilot flame (typically natural gas). The EPA does not intend for facilities to install a separate meter to measure the pilot gas for the purposes of reporting under this rulemaking, either to include or exclude this quantity of pilot gas. Installation of an additional meter for this purpose would be burdensome to reporters, especially when considering the increase in reported GHG emissions would be very low. Therefore, we are proposing to amend the rule to allow, but not require, facilities to exclude pilot gas from the flare gas GHG emissions calculations in Part 98 subparts Q, X, and Y. Purge/sweep gas would still be included in the flare GHG emissions calculations.

Finally, the EPA is proposing to amend the reporting requirements in 40 CFR 98.256(e) to add a requirement that facilities provide a yes/no indication as to whether a flare has a flare gas recovery system. Currently, 40 CFR 98.256(e) requires facilities to report general information as to the type of flare (*e.g.*, air-assisted, steam-assisted, or non-assisted) and the flare service (*e.g.*, general facility flare, unit flare, or emergency flare). Several offices within the EPA (as well as external researchers) use the GHGRP data on flares to characterize flare emissions, assess trends, and evaluate GHG emission reductions that could be achieved under various policies. In using the GHGRP data for flares for these purposes, we identified a key deficiency in the GHGRP data set is the lack of information regarding which flares have flare gas recovery systems. Flare gas recovery is a primary means by which owners and operators of flares may reduce flare emissions. The inclusion of information on which flares have flare gas recovery systems will provide useful information to characterize emission trends in key industries using flares and provide critical information needed by the EPA to make policy decisions. Only an indication of whether or not the flare is serviced by a flare gas recovery system is being proposed, so this amendment would add only a slight increase in burden to subpart Q, X, and Y

reporters that have flares. For more information on subpart Y confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

2. Revisions to Subpart Y to Improve the Quality of Data Collected under Part 98

For the reasons described in section II.B of this preamble, the EPA is proposing several amendments that would improve the quality of the data collected from subpart Y reporters while resulting in only a slight increase in burden for reporters.

The EPA originally promulgated rules for the reporting of GHG emissions from various source categories, including petroleum refineries, on October 30, 2009. Since the reporting requirements were developed, understanding of emissions from delayed coking units (DCU) has improved. The rule originally established a methodology to estimate methane emissions from a DCU based on a simple gas expansion model (*i.e.*, Equation Y-18) which the EPA is proposing to replace with a new methodology that will more accurately determine emissions from DCU.

Recently, EPA's Office of Air Quality Planning and Standards (OAQPS) conducted a detailed information collection request (ICR) (OMB Control No. 2060-0657) of the petroleum refining industry that gathered information about DCU operations and the decoking process. Based on the information collected, the EPA determined that the simple gas expansion model did not accurately reflect the emissions source and significantly underestimated emissions from the DCU. First, there is less gaseous void space in the coke drum than previously thought because the coke drum is filled with water and the void (vapor) space in the coke drum is small. Second and more importantly, there is a significant quantity of steam generated and released from the coke drum during the depressurizing process because the boiling point of the water decreases as the pressure of the vessel decreases. That is, there is a phase change and gas generation that occurs during the venting process. Consequently, the total quantity of gas discharged during a

venting event is actually much greater than predicted by the simple pressure expansion (no phase change) model previously used in Equation Y-18. Upon review of the test data collected in response to the ICR, the EPA determined that methane emissions are a function of steam generation, not the initial void volume in the delayed coking unit vessel. Based on these determinations, the EPA developed and used a steam generation model to estimate emissions from the DCU (see Docket Item No. EPA-HQ-OAR-2010-0682-0202) and revised and incorporated this methodology as part of the emissions factors update for petroleum refineries (see http://www.epa.gov/ttn/chief/consentdecree/index_consent_decree.html; April 2015). We are now proposing to amend the DCU GHG emission calculation methodology to align the GHGRP's methodology with the methodology recently incorporated into the emission factors update and to provide a more accurate means of estimating methane emissions from the DCU.

The proposed methodology uses a heat balance on the DCU coke drum vessel contents to estimate the volume of steam produced during the DCU decoking operations (steam venting, draining, vessel deheading, and coke cutting). Methane emissions per venting cycle is proportional to the quantity of steam generated. Key inputs to the heat balance include the mass of water and coke in the coke drum vessel and the average temperature of the coke drum contents when venting first occurs. We are proposing to allow reporters to determine the mass of coke in the coke drum based on company records or to estimate the mass of coke in the coke drum based on drum dimensions and drum outage (parameters already required to be recorded under the current rule) and a new equation provided in the rule (Equation Y-18a). We are proposing to require reporters to determine the mass of water in the coke drum based on the height of water in the coke drum and the mass of coke in the coke drum. We are proposing to allow either one of two methods to estimate the average temperature of the coke bed contents: 1)

a method based on the measured overhead temperature of the drum, and 2) a method based on the overhead pressure using a temperature-pressure correlation equation provided in the rule.

While the EPA generally considers the temperature method to be the most accurate means to determine the average temperature of the coke bed contents, the EPA understands that there are concerns that the temperature measurements in the overhead line may be erroneously high due to additional steam purges in the overhead line to prevent coke build-up on the monitoring equipment, so we have provided the temperature-pressure correlation equation as well to provide reporters additional flexibility. Additionally, the EPA has not previously required temperature monitoring for the DCU in subpart Y of Part 98, but the previous methodology for delayed coking units in subpart Y required the vessel pressure prior to venting to be monitored and used as an input to the previous equation. Consequently, the EPA is providing the use of the temperature-pressure correlation to allow reporters to use current pressure monitoring and recordkeeping practices to obtain the information needed to implement the new methodology. As such, the new methodology will not require the installation or use of new monitoring systems.

Finally, we are proposing to allow facilities that have DCU vent gas measurements to use these measurements to develop a unit-specific methane emissions factor for the DCU. This allows reporters that have previously used the combined Equation Y-18/Y-19 method (as well as other reporters) to use the measurement data available to provide an improved, site-specific emissions estimate. If a unit-specific methane emissions factor is not available, we are proposing that reporters use the default methane emissions factor for DCU of 7.9 kg methane per metric ton of steam generated. Additional background on this change is available in the memo “Revised Emission Methodology for Delayed Coking Units” from Jeff Coburn, RTI International to Brian Cook, EPA, dated June 4, 2015 (see Docket Id. No. EPA-HQ-OAR-2015-0526).

The EPA is proposing that the new methodology be used to estimate the emissions for each DCU and the EPA is proposing to amend the reporting requirements for DCU to only require reporting at the unit level. This change is being proposed for several reasons. Currently, DCU emissions are reported at the facility level. The decision was originally made to require reporting at the facility level to allow facilities that have two identical DCU (with same sized drums) to apply Equation Y-18 to the set of drums one time to reduce burden. However, the rule contains several required reporting elements be submitted on a DCU unit-specific basis, so the burden reduction associated with this simplification is very small, and facility-level data hindered the EPA's ability to verify the reported data.

Facilities currently have the option to use a combination of Equation Y-18 and Y-19 (process vent method) for estimating the emissions from the DCU. This further splits certain reporting elements between the DCU process unit and the process vents inputs. This split in the DCU reporting elements has caused confusion among reporters and made verification of the reported data challenging. For example, facilities that did not have a DCU were required to actively report a zero for their emissions from this source. Also, because emissions were to be reported at the facility level, the emissions from process vents added for DCU vents needed to be reported as zero for the DCU vent at the process vent level. However, many reporters reported emissions at the process vent level and may or may not have fully reported the DCU emissions at the facility level.

Due to the difficulties associated with the split reporting requirements, we are proposing that the new methodology be implemented to estimate the emissions for each delayed coking unit separately. This will simplify the reporting requirements for facilities and allow the EPA to simplify and streamline recordkeeping and reporting requirements for most reporters.

Additionally, in the proposed approach, DCU vent measurements may be used to develop a unit-specific methane emissions factor so the available measurement data can be used within the context of the proposed DCU methodology, rather than splitting the emissions estimates between two different methodologies (*i.e.*, Equations Y-18 and Y-19). For these reasons, the EPA anticipates the burden on reporters would be reduced by streamlining the DCU reporting requirements so that DCU-related reporting elements are only required to be reported at the DCU unit level.

In related revisions, we are proposing to revise 40 CFR 98.253(j) to delete "CH_4 emissions if you elected to use the method in paragraph (i)(1) of this section," because the DCU methodology no longer includes an option to use a combination of techniques to determine the CH_4 emissions from DCU decoking operations. We are also including "coke produced per cycle" in the list of quantities of petroleum process streams that are determined using company records in 40 CFR 98.254(j), and adding a requirement that temperature and pressure measurements associated with the DCU are to be determined "using process instrumentation operated, maintained, and calibrated according to manufacturer's instructions." These revisions are included to clarify monitoring requirements associated with the new DCU methodology. Additionally, we are proposing to revise the recordkeeping requirements in 40 CFR 98.257 associated with the DCU to harmonize the recordkeeping requirements with the new DCU methodology equations.

The EPA is also proposing to amend 40 CFR 98.253(h)(1) and (h)(2) to clarify the appropriate equations to be used for reporters with an asphalt blowing unit with a control device other than a vapor scrubber, thermal oxidizer, or flare (classified as "other (specify)" in e-GGRT). The current rule language in 40 CFR 98.253(h)(1) and (h)(2) only specifies the

methodology to use for these three control systems and for uncontrolled asphalt blowing. In the proposed amendments, we are revising 40 CFR 98.253(h)(1) to clarify that reporters with "asphalt blowing operations controlled either by vapor scrubbing or by another non-combustion control device" must use Equations Y-14 and Y-15 to calculate their GHG emissions. We are also revising 40 CFR 98.253(h)(2) to clarify that reporters with "asphalt blowing operations controlled by either a thermal oxidizer, a flare, or other vapor combustion control device" must use Equations Y-16a/Y-16b and Y-17 to calculate their GHG emissions. These amendments will yield more accurate emissions values as reporters will now be required to use the most appropriate equations for "other" control systems used for asphalt blowing operations. For more information on subpart Y confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

3. Minor Corrections and Clarifications to Subpart Y

For the reasons described in section II.D of this preamble, we are proposing several minor corrections, and clarifications to subpart Y of Part 98. These minor revisions are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

N. Subpart Z — Phosphoric Acid Production

In this action, we are proposing amendments to subpart Z of Part 98 (Phosphoric Acid Production). This section discusses all the proposed amendments to subpart Z. For the reasons described in section II.B of this preamble, we are proposing to revise subpart Z of Part 98 (Phosphoric Acid Production) to allow the EPA to collect data that would improve the EPA's understanding of GHG emissions from phosphoric acid production while generally resulting in only a slight increase in burden for reporters.

We are proposing to revise 40 CFR 98.266(f)(3) to require that the annual report must include the annual phosphoric acid production capacity (tons) for each wet-process phosphoric acid line, rather than the annual permitted phosphoric acid production capacity. In a prior technical correction to the rule (78 FR 19823, April 2, 2013) we acknowledged that not all phosphoric acid production facilities have a permitted production capacity, and additionally, not all facilities produce to the permitted capacity. During that action, we removed the word "permitted" from the requirement at 40 CFR 98.266(b) to report the facility-level production capacity. We are proposing a similar revision in this action to remove the word "permitted" from the requirement to report the process-level production capacity, noting similarly that not all facilities have a permitted production capacity at the process-level or produce to the permitted capacity. We are also proposing to clarify the units of measurement for this reporting requirement. The current text for 40 CFR 98.266(f)(3) requires the reporting of "annual phosphoric acid permitted production capacity (tons) for each wet-process phosphoric acid process line (metric tons)." In this action, we are proposing to remove the units of measurement "(metric tons)" from this text to provide further clarity on the requirements that the unit of measurement is "tons" and not "metric tons." The revision to the process-level capacity is necessary to ensure that the EPA collects consistent annual production capacity data and will provide a better characterization of the relationship between industry production and emissions. For more information on subpart Z confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

O. Subpart AA — Pulp and Paper Manufacturing

In this action, we are proposing several amendments, clarifications, and corrections to subpart AA of Part 98 (Pulp and Paper Manufacturing). This section discusses all of the proposed changes to subpart AA.

1. Revisions to Subpart AA to Streamline Implementation of Part 98

For the reasons described in section II.A of this preamble, we are proposing one amendment to subpart AA that would streamline the requirements of the rule and improve implementation, while generally reducing burden. We are proposing to clarify that Tier 4 CEMS are not used to report emissions under subpart AA. Subpart AA currently requires that fossil-fuel based CO_2 emissions be calculated using subpart C methodologies. Subpart AA states that Tier 1 or a higher tier may be used. Subpart AA reporters have not used the Tier 4 CEMS methodology during any previous reporting year, and are not expected to do so given the mixture of biogenic and fossil-fuel CO_2 emissions in the exhaust streams from subpart AA emission units. Therefore, we are proposing amendments to clarify that Tier 4 is not included in 40 CFR 98.273(a)(1), (b)(1), and (c)(1), which refer to the subpart C calculation methodologies for CO_2 emissions from combustion of fossil-fuel. This clarification will provide clarity to reporters and also reduce the EPA burden and related program expense required to maintain e-GGRT CEMS web forms and associated verification checks and documentation.

2. Other Amendments to Subpart AA

As described in section II.C of this preamble, through communication with stakeholders, we have identified certain aspects of the rule that may require revision, including those we are proposing in response to comments submitted by stakeholders on prior rulemakings. Subpart AA requires pulp mill reporters to determine the annual mass of spent liquor solids fired in chemical

recovery furnaces and chemical recovery combustion units by either measuring the mass of spent liquor solids annually (or more frequently) with a Technical Association of the Pulp and Paper Industry (TAPPI) method, or using records of measurements made with an online measurement system. Missing measurements are currently required to be populated with either the maximum spent liquor mass or fuel flow rate for the combustion unit, or the maximum mass or flow rate that the fuel meter can measure. Representatives of the forest products industry requested revisions to the missing data requirements for spent liquor solids in 40 CFR 98.275(b).[17] The industry representatives explained that use of the maximum potential spent liquor solids firing rate or the maximum the meter can measure can overstate GHG emissions. The industry representatives stated that this procedure is unnecessarily burdensome and confusing because this requirement differs from the way mills handle spent liquor solids flow monitoring for other federal air rules, such as the National Emission Standards for Hazardous Air Pollutants in 40 CFR Part 63, subpart MM. The industry representatives noted that having a data acquisition, analysis, and reporting program that uses one value for liquor feed rate for GHG reporting purposes and another feed rate for all other purposes is overly complicated for both mill personnel and regulatory agencies. The industry representatives requested that 40 CFR 98.275(b) of subpart AA be amended to require use of the mass of spent liquor solids reported under 40 CFR 63.866 of subpart MM for missing measurements.

The EPA has reviewed the industry representatives' request and agrees that use of the daily value recorded under 40 CFR 63.866(c)(1) of subpart MM results in an acceptable missing data estimate for the combustion unit. Thus, the EPA is proposing to amend 40 CFR 98.275(b) to allow use of the daily mass of spent liquor solids fired reported under 40 CFR 63.866(c)(1) as an

[17] See docket item EPA–HQ–OAR–2012–0934-0058. Although this request was received in comments on the 2013 Revisions Rule, this request was determined to be outside the scope of the 2013 proposed amendments and was not addressed at that time. This request is being considered as part of these proposed amendments.

alternative to maximum values. The provisions of 40 CFR 63.866(c)(1) require pulp mills to retain records of the mass of spent liquor solids fired in megagrams (Mg) or tons per day. This proposed amendment acknowledges that the daily value recorded under 40 CFR 63.866(c)(1) may need to be adjusted to match the duration of missing data under subpart AA. For example, the daily measurement may need to be adjusted to represent only a few hours of monitor downtime. We are proposing to retain the original requirements of 40 CFR 98.275(b) in addition to proposing the alternative to use the value recorded under 40 CFR 63.866(c)(1) to avoid requiring reconfiguration of data systems in mills that may have configured their data reporting systems to supply maximum values for subpart AA.

We are proposing one additional revision to subpart AA that is a minor clarification and that would improve the understanding of the rule. We are proposing a clarification to column labels in Table AA-2. Table AA-2 contains CH_4 and N_2O emission factors for "kraft lime kilns" and "kraft calciners," both of which are "pulp mill lime kilns" as defined in 40 CFR 98.6. The N_2O emission factors differ for these two technologies. Because calcining (thermal removal of carbonates from lime mud) occurs in both types of equipment, there has been some confusion regarding which N_2O emission factors apply. To eliminate this confusion, we are proposing minor wording changes to clarify that the columns for "kraft lime kilns" in Table AA-2 refers specifically to "kraft *rotary* lime kilns." We are also proposing to add a footnote to Table AA-2 indicating that fluid bed calciners are an example of kraft calciners. The majority of kraft pulp mills operate rotary lime kilns while at least one kraft mill operates a fluidized bed calciner.

P. Subpart CC — Soda Ash Manufacturing

In this action, we are proposing amendments to subpart CC of Part 98 (Soda Ash Manufacturing). This section discusses the substantive changes to subpart CC; additional minor

amendments, corrections, and clarifications are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart CC to Improve the Quality of Data Collected under Part 98

We are proposing two revisions that are intended to improve the quality of data collected under subpart CC, while only resulting in a slight increase in burden for reporters. We are proposing to revise 40 CFR 98.296(a) and (b) to require reporting of the facility-level annual consumption of trona or liquid alkaline feedstock. For the reasons described in section II.B of this preamble, we are proposing the addition of this data element to help improve the quality of the U.S. GHG Inventory by using aggregated facility level data. These data are already required to be reported on the manufacturing-line basis for subpart CC reporters that report using CEMS. For non-CEMS subpart CC reporters, the requirements to report consumption data for each manufacturing line, previously required per 40 CFR 98.269(b)(5), was removed in the Final Inputs Rule. This action would propose to streamline the reporting of facility-level consumption data from both CEMS and non-CEMS reporters on a more aggregate level. Currently, the U.S. Inventory estimates CO_2 emissions based on application of default emissions factors to estimated trona production[18]. Consistent collection of this data element from facilities would enable the EPA to aggregate and integrate GHGRP emission estimates, and transparently determine national emissions based on trona consumption within the U.S. GHG Inventory and allow for the application of more advanced calculation methods. For more information on subpart CC confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

[18] See p. 3.52-53 (Tier 2 and 3). 2006 IPCC Guidelines for National Inventories, Volume 3, Chapter 3, Section 3.3: Natural Soda Ash Production. See also Section 4.11 (pp. 4-40 through 4-42) of U.S. GHG Inventory http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2015-Chapter-4-Industrial-Processes.pdf.

2. Minor Corrections and Clarifications to Subpart CC

For the reasons described in section II.D of this preamble, we are proposing one minor correction to subpart CC of Part 98. This minor revision is summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

Q. Subpart DD — Use of Electric Transmission and Distribution Equipment

In this action, we are proposing several amendments, clarifications, and corrections to subpart DD of Part 98 (Use of Electric Transmission and Distribution Equipment). This section discusses all of the proposed changes to subpart DD.

For the reasons described in section II.B of this preamble, the EPA is proposing several changes to subpart DD that will improve the quality and usefulness of the data received by the GHGRP, while generally resulting in only a slight increase in burden for reporters.

A facility is defined under subpart DD at 40 CFR 98.308 as an electric power system, comprised of all electric transmission and distribution equipment insulated with or containing SF_6 or PFC that is linked through electric power transmission or distribution lines and functions as an integrated unit that is owned, serviced, or maintained by a single electric power transmission or distribution entity (or multiple entities with a common owner), and that is located between: 1) the point(s) at which electric energy is obtained from an electricity generating unit or a different electric power transmission or distribution entity that does not have a common owner; and 2) the point(s) at which any customer or another electric power transmission or distribution entity that does not have a common owner receives the electric energy. The facility also includes servicing inventory for such equipment that contains SF_6 or PFC.

Given the nature of electric power systems, subpart DD facilities generally span a geographic area, and in some cases, may cross state boundaries. Currently, subpart DD reporters

provide the EPA with the facility address on their certificate of representation. However, this address does not provide complete information on where the electric power system actually lies. The EPA is proposing to add new reporting requirements at 40 CFR 98.306(m) to make data collected under subpart DD more useful to the public. The new data elements would require the electric power system to provide the name of the U.S. state, states, or territory in which the electric power system lies and the total miles of transmission and distribution lines that lie in each state or territory. These data elements would allow users of GHGRP data to more easily identify the state, states, or territory within which the electric power system lies. Users of GHGRP data would also be able to compare the miles of transmission and distribution lines in each state or territory to the total miles of transmission and distribution lines for the facility and then approximate the percentage of emissions that occur within each state or territory. (As discussed in the U.S. GHG Inventory, SF_6 emissions from electric power systems are correlated with the length of their transmission lines.) This would be useful for determining state- and territory-level GHG emissions associated with particular electric power systems. Although requiring facilities to report their emissions by state or territory would provide more precise estimates of emissions by state or territory, such a requirement would probably significantly increase the burden of reporting. In comparison, reporting the total miles of transmission and distribution lines that lie in each state and territory appears likely to be relatively straightforward for electric power systems. We request comment on whether it would be less burdensome for facilities to report the total transmission and distribution lines that lie in each state or territory within the facility boundary or to report the emissions for each state or territory within the facility boundary. We also request comment on whether miles of transmission lines alone are likely to be a better predictor of SF_6 use and emissions than combined miles of transmission and

distribution lines. If so, the EPA could simply require reporting of the miles of transmission lines in each state or territory.

We are also proposing to add reporting elements to subpart DD that are related to the nameplate capacities and numbers of pieces of new and retiring equipment. Currently, electric transmission and distribution facilities are required to include the nameplate capacities of new and retiring hermetically sealed-pressure equipment, along with the corresponding quantities for other electrical equipment, in their emission calculations. They are also required to report the total nameplate capacity of new equipment, including hermetically sealed-pressure equipment, and the total nameplate capacity of retiring equipment, including hermetically sealed-pressure equipment. However, they are not required to distinguish between hermetically sealed-pressure and other equipment in these reports.

In lieu of reporting the total nameplate capacity for all hermetically sealed-pressure equipment and other equipment, we are proposing to require facilities to separately report the nameplate capacities of hermetically sealed-pressure equipment and other equipment that they install and retire during the year. We are also proposing to require facilities to report the numbers of pieces of hermetically sealed-pressure equipment and other equipment that they install and retire during the year. These additional requirements would not require any additional data gathering but would enable us to better understand the quantities of SF_6 contained in hermetically sealed-pressure equipment, which is typically used in medium voltage, distribution applications. Currently, the GHGRP does not require reporting of the quantity of SF_6 inside such equipment or the number of pieces of such equipment.[19] Information on the nameplate capacities

[19] We excluded hermetically sealed-pressure equipment from the requirement to annually inventory the total nameplate capacity of the facility's electrical equipment because hermetically sealed-pressure equipment tends to have small individual charge sizes, to be serviced only rarely or not at all, and to be spread in large numbers throughout transmission and distribution networks, making it relatively difficult to track after it is installed.

and numbers of pieces of such equipment being installed and retired, along with the corresponding information for other types of equipment, would provide insight into the relative importance of the two types of equipment as potential emission sources (*e.g.*, upon disposal), and a rough but useful gauge of the average charge sizes of both types of equipment, which affects the choice of strategy for reducing emissions. Historically, hermetically sealed-pressure equipment has been considered to be a relatively small source of SF_6 in the U.S., but its importance is known to be growing internationally and may also be growing domestically. These data elements represent information that reporters are expected to have readily available and would therefore generally result in only a slight increase in reporting burden.

The proposed amendments would add reporting of the nameplate capacities of new hermetically sealed-pressure switchgear (proposed 40 CFR 98.306(a)(2)), new SF_6- or PFC-insulated equipment other than hermetically sealed-pressure switchgear (proposed 40 CFR 98.306(a)(3)), retired hermetically sealed-pressure switchgear (proposed 40 CFR 98.306(a)(4)), and retired SF6- or PFC-insulated equipment other than hermetically sealed-pressure switchgear (proposed 40 CFR 98.306(a)(5)). These data elements are inputs to an emission equation (Equation DD-1). Therefore, the EPA evaluated these data elements to determine if their public release would cause disclosure concerns, using the process established in the Final Deferral Notice (76 FR 53057, August 25, 2011). The EPA determined that facilities reporting under this subpart consist of public utilities, including electric cooperatives, public supply corporations (*e.g.*, Tennessee Valley Authority), federal agencies (*e.g.*, Bonneville Power Administration), and municipally-owned electric utilities. These are public or publicly-regulated utilities that are not affected by competitive market conditions that may apply to other industries. The reported

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However, it is relatively easy (and currently required) to track this equipment when it is installed or retired (75 FR 74803, December 1, 2010).

data relates to maintenance activities and installation of new/replacement of existing gas-insulated equipment (*e.g.*, circuit breakers, switchgear, power transformers, etc.) and amounts of SF_6 and PFC used or recovered in servicing or replacing such equipment. These data elements do not disclose any information about a manufacturing process or operating conditions that would be proprietary. Therefore, the EPA is proposing that there are no disclosure concerns with these proposed data elements, and they must be reported in e-GGRT.

Because we recognize that the range of charge sizes can be large (*e.g.*, greater than an order of magnitude) for both types of equipment, we are requesting comment on an alternative approach in which facilities would report the numbers of pieces of each type of equipment that are newly installed or retired and that fall into particular nameplate capacity ranges. One possible set of ranges is shown in Table 6 of this preamble:

Table 6. Nameplate Capacity Ranges for Reporting Numbers of Pieces of New and Retiring Equipment (Pounds of SF_6)

0 to 0.5
>0.5 to 1
>1 to 15
>15 to 30
>30 to 100
>100 to 500
>500

While this approach would require more effort than providing the total numbers of pieces of equipment newly installed and retired for hermetically sealed-pressure equipment and for all other equipment, it would provide more precise data. For example, it would enable us to distinguish between situations in which most newly installed, hermetically sealed-pressure equipment had a charge size of 1 or 2 pounds, and situations in which most such equipment had a charge size of one or two ounces, but the average charge size was inflated by a few outliers with charge sizes of ten pounds or more.

For more information on subpart DD confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

R. Subpart FF — Underground Coal Mines

In this action, we are proposing several amendments, clarifications, and corrections to subpart FF of Part 98 (Underground Coal Mines). This section discusses the substantive changes to subpart FF; additional minor amendments, corrections, and clarifications are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart FF to Streamline Implementation

For the reasons described in section II.A of this preamble, the EPA is proposing three changes to subpart FF that will streamline reporting of GHG emissions under subpart FF.

First, for the reasons described in section III.A.1 of this preamble, the EPA is proposing to amend 40 CFR 98.2(i)(3), which provides that an owner or operator of a facility that has reported to the GHGRP can stop reporting to the program if all applicable GHG-emitting processes and operations permanently cease to operate. Facilities may take advantage of this provision beginning in the year after the cessation of operations. However, paragraph (i)(3) expressly precludes owners and operators of underground coal mines from using this off-ramp even after a mine is closed and abandoned. Underground coal mines may only cease reporting after meeting the other criteria in 40 CFR 98.2(i): 1) if GHG emissions fall below 25,000 $mtCO_2e$ for five consecutive years, or 2) if GHG emissions fall below 15,000 $mtCO_2e$ for three consecutive years. The EPA is proposing to amend 40 CFR 98.2(i)(3) to give owners and operators of abandoned underground mines the opportunity to use the off-ramp provided by paragraph (i)(3). Specifically, we are proposing to amend paragraph (i)(3) to state that paragraph

(i)(3) does not apply to underground coal mines, except those whose status is determined to be "abandoned" by MSHA. In keeping with the proposed changes to 40 CFR 98.2(i) discussed in section III.A.1 of this preamble, these proposed revisions would apply beginning on January 1, 2017. All other proposed revisions to subpart FF, as discussed in this section, would apply beginning January 1, 2018 (see section I.E of this preamble for additional information).

In proposing this change, the EPA recognizes that non-flooded underground coal mines continue to liberate methane even after the mining operations cease. However, methane liberation from closed mines occurs on a rapidly declining basis until the mine is sealed and declared abandoned by MSHA, and sealed shafts emit virtually no methane to the atmosphere. This is supported by the EPA's work in developing a methodology for calculating emissions from abandoned underground mines.[20]

The proposed change will streamline reporting under subpart FF by limiting reporting to facilities actively emitting measurable volumes of methane. Reports submitted by closed and abandoned mines during the first four years of the GHGRP show that abandoned and sealed mines produce quantities of GHG emissions far below the reporting threshold, and the data are of limited value for the GHGRP and U.S. GHG Inventory while resulting in additional reporting burden for facilities.

With respect to defining when a mine is considered abandoned, the EPA is proposing to rely on the MSHA determination of a mine's operational status as "abandoned," because it is a transparent, publicly available indicator of mine operational activity. The operational status of any mine can be found using MSHA's on-line Mine Data Retrieval System (MDRS) http://www.msha.gov/drs/drshome.htm. Moreover, the MSHA abandoned status provides

[20] U.S. Environmental Protection Agency. Methane Emissions from Abandoned Coal Mines in the United States: Emission Inventory Methodology and 1990-2002 Emissions Estimates. Washington, D.C., April 2004. http://epa.gov/cmop/docs/amm_final_report.pdf.

confidence that closed mines are sealed, and are, therefore, not emitting methane. MSHA regulations require operators to seal any mine that has been permanently closed or abandoned for more than 90 days.[21] The MSHA operating procedures require an MSHA district manager to inspect and certify that the mine is sealed as part of the abandonment process.[22]

Furthermore, the EPA believes that this proposed change has the added benefit of removing a perceived conflict with 40 CFR 98.320(c), "Definition of the source category", in subpart FF. This provision exempts abandoned and closed underground coal mines as source categories required to report to the GHGRP. Some reporters are uncertain which provision, 40 CFR 98.2(i) or 40 CFR 98.320(c), takes precedence when formerly operating and reporting mines change status to abandoned and sealed mines. The EPA believes the proposed modification would remove any ambiguity and uncertainty, clarifying when underground coal mines may cease reporting to the GHGRP and streamlining implementation of the GHGRP.

Second, the EPA is proposing several amendments to clarify when moisture content is to be reported. The first several amendments apply to 40 CFR 98.326, which lists the data reporting requirements for subpart FF. The EPA is proposing to amend 40 CFR 98.326(o) to require reporting of moisture content only in those cases where the volumetric flow rate and CH_4 concentration from a specific mine ventilation or degasification monitoring point are not measured on the same dry or wet basis, and in the case that flow rate is measured with a flow meter that does not automatically correct for moisture content. For example, if the volumetric flow rate at a specified monitoring point is measured on a dry basis but CH_4 concentration at that monitoring point is measured on a wet basis, then the reporter must report moisture content for the monitoring point unless using a flow meter that automatically corrects for moisture content.

[21] See 30 CFR 75.1711.

[22] U.S. Department of Labor, Mine Safety & Health Administration. Coal Mine Safety And Health General Inspection Procedures Handbook. Handbook Number: PH13-V-1.

The EPA is proposing to amend 40 CFR 98.326 (f) through (i) to require reporters to specify whether volumetric flow rate and CH_4 concentration measurements for ventilation and degasification systems are determined on a wet or dry basis. The proposed changes would also amend 40 CFR 98.326(f) and (h) to specify that where a flow meter is used, the reporter must indicate whether the flow meter automatically corrects for moisture content. This information will provide the necessary information for the reporter and for the EPA to determine if moisture content should be reported for an individual facility.

Third, the EPA is proposing several amendments related to moisture content in 40 CFR 98.323 and 40 CFR 98.324, which lists the requirements for calculating GHG emissions. The EPA is proposing to amend 40 CFR 98.323(a)(2) to read, "Values of V, C, T, P, and, if applicable, (f_{H2O}), . . ." so that "if applicable" more explicitly applies to the moisture content term, (f_{H2O}). The EPA is proposing the same change for 40 CFR 98.323(b)(1) and 40 CFR 98.324(b)(1). The changes to 40 CFR 98.323 and 40 CFR 98.324 are being proposed to ensure consistency with the proposed change to 40 CFR 98.326(o).

2. Revisions to Subpart FF to Improve the Quality of Data Collected under Part 98

For the reasons described in section II.B of this preamble, the EPA is proposing two changes to subpart FF that will improve the quality of data received by the GHGRP and seeking comment on a third. First, the EPA is proposing to amend 40 CFR 98.324(b) to no longer allow MSHA quarterly inspection reports to be used as a source of data for monitoring methane liberated from ventilation systems. Instead, the facility will be required to use either of the two other methods set forth in the rule to monitor methane released from mine ventilation systems: CEMS or independently collected grab samples. Second, the EPA is proposing to add annual coal production to the list of data reporting requirements outlined in 40 CFR 98.326. Third, the

EPA is seeking comment on increasing the frequency with which grab samples must be taken, from quarterly to monthly.

Under 40 CFR 98.324(b)(1) through (3), reporters may choose to monitor methane liberated from mine ventilation systems using any one or a combination of three approved methods: 40 CFR 98.324(b)(1) - quarterly grab samples; 40 CFR 98.324(b)(2) - data from MSHA quarterly inspection reports; or 40 CFR 98.324(b)(3) - use of a CEMS. MSHA conducts health and safety inspections at all operating mines at least once every quarter. Each inspection includes a methane survey of the ventilation system to ensure that the mines are operating within prescribed safety limits. To obtain methane measurements, an MSHA inspector takes grab samples using sealed test tubes. The samples are analyzed at an MSHA laboratory. A handheld anemometer is used to determine ventilation air flow. Approximately 50 percent of the 125 mines reporting to the GHGRP use MSHA quarterly reports as the basis for reporting methane liberation from ventilation.

The EPA is proposing to remove the option of using MSHA quarterly inspection reports as an accepted methodology for monitoring methane liberation in mine ventilation systems. Reporters would be required to collect grab samples or use a CEMS to monitor mine ventilation systems. This change will remove 40 CFR 98.324(b)(2). We are proposing this change because we have determined, through several reporting cycles and a review of MSHA quarterly inspection reports for 30 of the highest emitting mines, that the quarterly flow rate data gathered by MSHA cannot reliably be used for GHG reporting purposes. MSHA regulations and inspections are intended to ensure mine worker health and safety rather than to quantify specific mine operating parameters. MSHA inspections provide important data for assessing mine safety, and if complete, MSHA data may provide a reasonable estimate of methane emissions from

underground coal mines. However, the EPA found that for many facilities the MSHA data can result in too many data gaps to meet the objectives of the GHGRP, adding considerable uncertainty to the calculation of facility and sector-wide GHG emissions. One common example is the occasional inconsistency in the locations within specific mines where MSHA inspectors take volumetric flow measurements and methane grab samples. Sampling locations are not fixed and, from quarter to quarter, inspectors may use more than one name for a single approach. In addition, approaches and even shafts may not appear in every quarterly report. For more information on the EPA's review of the MSHA data see the memorandum titled "Use of Inspection Data from the Mine Safety Health Administration for Reporting Quarterly Methane Liberation from Mine Ventilation Shafts" from Clark Talkington, ARI to Cate Hight, EPA, dated November 13, 2015, in Docket Id. No. EPA-HQ-OAR-2015-0526. Although this rule change will increase the burden on facilities that currently use MSHA data to meet the requirements of 40 CFR 98.324(b), the EPA has determined that the proposed amendment is necessary to improve the quality of data consistent with the intended purpose of Part 98. In proposing this change, the EPA is seeking comment on whether other alternatives, such as surface level samples taken at the fan mouth, would achieve the same objectives for improved data quality from mine ventilation systems. The EPA encourages commenters to submit studies, data, and background information that can support additional analysis.

The second proposal to improve data quality under subpart FF adds a new provision 40 CFR 98.326(u). The EPA is proposing to require reporters to report the total volume of coal produced, in short tons, during the reporting period. An important approach for verifying the accuracy of subpart FF annual reports is a comparison of year to year changes in methane liberation and methane emissions for each facility. To support report verification, the EPA is

proposing to add coal production to the list of required data to be reported under subpart FF. In many instances, an increase or decrease in coal production is a reasonable explanation for a corresponding increase or decrease in methane liberation. Obtaining annual coal production data with the annual subpart FF report would allow the EPA to review year-to-year changes in methane emissions in light of changes in coal production. These data are expected to reduce the burden on reporters and the EPA in verifying the annual reports. This change will not result in additional reporting burden for the mine because coal companies closely track coal production and report quarterly production totals to MSHA. MSHA makes quarterly and annual coal production publicly available through MSHA's Mine Data Retrieval System (MDRS) at http://www.msha.gov/drs/drshome.htm. Total annual coal production for the reporting year is publicly available by the March 31st GHGRP submission date in the year following the reporting year.

Third, the EPA is seeking comment on increasing the sampling frequency for reporters using grab samples from quarterly to monthly in order to provide more accurate and reliable data. Currently, mines that monitor methane liberation from grab samples must take at least one grab sample per quarter for each ventilation monitoring point (40 CFR 98.324(b)(1)), and report methane liberation on a quarterly basis. Mine-specific daily and weekly data sets show that significant day-to-day and week-to-week variation in methane emissions can occur depending on operating and geologic conditions at a mine. According to the IPCC Guidelines, frequent measurements of underground coal mine emissions can account for such variability and also reduce the intrinsic errors in the measurement techniques. As emissions vary over the course of a year due to variations in coal production rate and associated drainage, good practice is to collect measurement data as frequently as practical, preferably biweekly or monthly to smooth out

variations.[23] Preliminary analysis of high frequency ventilation air emissions at underground coal mines shows that uncertainty decreases as sampling frequency increases. Therefore, increasing the frequency with which grab samples are taken from quarterly to monthly could improve the accuracy of ventilation data reported to the GHGRP. In considering this change, the EPA analyzed high-frequency datasets of ventilation air methane (VAM) emissions at three mines (Mines "A", "B", and "C") to examine the uncertainty associated with weekly, monthly, and quarterly sampling based on using a random day selection approach.

Using VAM emissions data recorded daily and weekly from the three underground coal mines (one with daily sampling and two with weekly sampling), the EPA analyzed the average daily VAM emissions rate by randomly selecting the sampling day or week during a 12 month reporting period. Mine A had daily CH_4 emissions ranging from 1 to 4 million cubic feet per day (mmcfd) with an average of ~2.5 million cubic feet per day mmcfd. Mine B had daily CH_4 emissions ranging from 4 to 18 mmcfd (avg. ~10.1 mmcfd). Mine C had daily CH_4 emissions ranging from 1 to 7 mmcfd (averaging. ~3.6 mmcfd).

To assess the variability in emissions, each case was run for a weekly, monthly, and quarterly sampling frequency over a 12 month reporting period. For Mine A, the results showed that weekly sampling produced a small standard deviation of 1.6% compared to daily sampling. For all three mines, the results showed the standard deviations increased to 4.3-5.2% when sampling frequency decreased from weekly to monthly sampling. Finally, the results showed the standard deviations increased to 12.1-13.4% when sampling frequency decreased from monthly sampling to quarterly sampling. Due to the day-to-day variability in VAM emissions, ranges of maximum possible errors are also greater with decreased sampling frequency. Deviations from

[23] From 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 4. See: http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_4_Ch4_Fugitive_Emissions.pdf.

the actual value for monthly sampling ranged from 8.8-10.7%, while deviations for quarterly sampling ranged from 20.6-35.1%.

This analysis demonstrates that uncertainty decreases as sampling frequency increases, most noticeably when the frequency decreases from quarterly to monthly. Although the EPA considered requiring weekly sampling, it appears that monthly sampling strikes the most appropriate balance between improving data quality while limiting the additional burden on reporters for more frequent sampling. The EPA also notes that a number of mines reporting to the GHGRP already take grab samples on a more frequent basis than the quarterly MSHA sampling requirements. In addition, based on published papers the EPA understands that many mining operations conduct ventilation surveys on a monthly and possibly more frequent basis as a critical element of good practice health and safety. Air samples are taken as part of the ventilation survey to confirm levels of hazardous gases. Therefore, the EPA believes an amendment to increase monitoring frequency is feasible for the industry. The EPA is also seeking comment on other monitoring frequencies higher than monthly (such as biweekly) or monitoring frequencies higher than quarterly but less than monthly (such as bimonthly).

For additional information regarding the EPA's preliminary analysis for increasing monitoring frequency, see the memorandum entitled "Evaluating Possible VAM Emissions Estimation Errors Based on Different Sampling Intervals (Quarterly, Monthly, Weekly)," Ruby Canyon Engineering, dated June 10, 2015, in Docket Id. No. EPA-HQ-OAR-2015-0526. The EPA encourages commenters to submit studies, data, and background information demonstrating multi-year VAM monitoring on a basis that is more frequent than quarterly. This information will help determine the appropriate frequency of monitoring for ventilation emissions that is needed to ensure accurate and reliable measurements.

Finally, we are also proposing a change to 40 CFR 98.324(b)(1) to require use of the most recent edition of the MSHA Handbook for inspections and sampling procedures entitled, Coal Mine Safety and Health General Inspection Procedures Handbook Number: PH13-V-1, February 2013.

In addition to improving the quality of data reported to the GHGRP, and, in turn, the quality of emissions data aggregated and reported to the public by the GHGRP, the proposed changes to monitoring methods for mine ventilation systems, as well as the addition of annual coal production to the data reporting requirement, would improve the emissions estimates for coal mines reported in the U.S. GHG Inventory. For more information on subpart FF confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

3. Other Amendments to Subpart FF

As described in section II.C of this preamble, we are proposing revisions to Part 98 to respond to issues raised by reporters and to more closely align rule requirements with the processes conducted at specific facilities. The following proposed revisions to subpart FF are in response to comments and questions we have received since reporting under subpart FF began in 2011.

In 40 CFR 98.323(a) and (b), we are proposing to clarify for Equations FF-1 and FF-3 the method for determining the number of days in a month or week (n) where active ventilation and degasification are taking place. In both equations, the definition of Number of Days (n) is being clarified to note that (n) is determined by taking the number of hours in the monitoring period and dividing by 24 hours per day.

In 40 CFR 98.323(a)(3) and 40 CFR 98.323(b)(2), the text is being amended to state that the quarterly sum of CH_4 liberated from ventilation and degasification systems, respectively, "must be" rather than "should be" determined as the sum of the CH_4 liberated at each monitoring point during that quarter. This change is being proposed because calculating the quarterly sum of CH_4 liberated is required rather than being optional.

The EPA is proposing to remove "If applicable" in 40 CFR 98.324(h) to clarify that the provision requiring the owner or operator to document the procedures used to ensure the accuracy of gas flow rate, gas composition, temperature, pressure, and moisture content measurements is a requirement for all reporters, because grab samples and CEMS would be the only acceptable monitoring methods if the amendments to 40 CFR 98.324(b) are finalized as proposed.

In 40 CFR 98.326(r)(2), we are proposing to clarify the start date and end date for a well, shaft, or vent hole. This requirement has caused confusion for some reporters. The start date of a well, shaft, or vent hole is the date of actual initiation of operations and may begin in a year prior to the reporting year. For purposes of reporting, we are amending paragraph (r)(2) to state that the end date of a well, shaft, or vent hole is the last day of the reporting year if the well, shaft, or vent hole is operating on that date.

In 40 CFR 98.326(r)(3), we are proposing to add language clarifying the method for determining and reporting the number of days a well, shaft, or vent hole was in operation during the reporting year. The number of days is determined by dividing the total operating hours in the reporting year by 24 hours per day. This change is consistent with similar changes to the method for determining number of days in Equations FF-1 and FF-3, discussed earlier in this section.

4. Minor Corrections and Clarifications to subpart FF

In addition to the substantive changes proposed, for the reasons described in section II.D of this preamble, we are proposing minor revisions that are intended to clarify specific provisions in subpart FF. These minor revisions are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

S. Subpart HH — Municipal Solid Waste Landfills

In this action, we are proposing several amendments, clarifications, and corrections to subpart HH of Part 98. This section discusses the substantive changes to subpart HH; additional minor amendments, corrections, and clarifications are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart HH to Streamline Implementation

For the reasons described in section II.A of this preamble, we are proposing one amendment that is intended to simplify and streamline the requirements of subpart HH and focus the provisions of the rule on the essential data that the EPA requires to review, assess, and verify reported emissions. We are proposing to revise 40 CFR 98.346(f) to remove the requirement to report the surface area for each type of cover material used at the facility. The surface area for each cover material used has not been useful in assessing or verifying reported emissions and therefore, the EPA is proposing to remove the requirement to report this data. The proposed amendment will still require the reporting of the total surface area of the landfill containing waste (in square meters) and an identification of the type(s) of cover material used. This information is used during verification to check the consistency of the collection efficiency reported by the landfill. However, when multiple cover types are used, reporters will no longer be required to report the surface area of the landfill containing waste associated with each cover

type. The proposed change would reduce the burden to reporters and the agency as described in section II.A of this preamble.

2. Revisions to Subpart HH to Improve the Quality of Data Collected under Part 98

For the reasons described in section II.B of this preamble, the EPA is proposing several amendments to subpart HH that would allow the EPA to collect data that would improve the EPA's understanding of sector GHG emissions while generally resulting in only a slight increase in burden for reporters.

First, we are seeking comment on whether revisions should be made to Table HH-3 to allow landfill owners or operators to determine the weighted average collection efficiency for their landfill using either an area-based weighting approach, as has been required in previous reporting years, or a volume-based weighting approach. We are also seeking comment on whether reporters should be given the option to use either approach, or if one approach should be required if reporters meet certain landfill characteristics and if so, what those landfill characteristics should be. We have received comments from reporters stating that the area weighted average does not accurately reflect the overall efficiency of the gas collection system due to differences in the waste depth or age in different portions of their landfill. We considered allowing reporters to define subareas of the landfill and perform all of the subpart HH calculations and report the equation inputs for each subarea. This approach would consider the effects of waste age, composition, and quantity for the different landfill subareas, but it would essentially double or triple the number of reporting elements, depending on the number of subareas defined. We next considered providing a volume-based weighting approach for calculating collection efficiency. This approach only considers some of the variables that influence methane generation rate, but these are variables already reported, namely the depths for

each waste area defined in Table HH-3. If the option to use the area weighted approach or the volume-based weighting approach is finalized, no new reporting elements beyond an indication of which weighting approach is used would be required. This revision would allow us to use the data previously reported to develop a consistent time line, if necessary, without requiring reporters to revise previously submitted reports. If a requirement to use one approach over another for reporters with certain landfill characteristics is finalized, one or more new reporting elements may be required depending on what the certain landfill characteristics are. Consequently, we are seeking comment on 1) whether reporters should be given the option to calculate the collection efficiency; 2) whether reporters should be allowed to use and report the option of either the area weighted average or the volume weighted average approach; 3) whether reporters should be required to use one approach over the other depending on specific landfill characteristics (e.g., reporters with drastically different wastes depths in portions of their landfill should be required to use the volume weighted approach); and 4) what those specific landfill characteristics should be. We expect that the many landfills that have similar waste depths in different areas of their landfill (or a single area) will maintain their existing data collection and calculation procedures by using the area weighted average. In contrast, we expect reporters with different waste depths in portions of their landfill to use the volume weighted average approach, thereby improving the accuracy of the data reported for those landfills. If finalized, these changes would be effective beginning with the 2016 reporting year and are not retroactive.

We are proposing to broaden the description of area type A5 in Table HH-3 to include alternative final covers. Currently, facilities with landfill gas collection and approved alternative final covers are not allowed to use the 95 percent collection efficiency in their emissions calculations because an alternative final cover does not fit the exact language in the definition for

area type A5 in Table HH-3. This proposed revision would allow facilities with alternative final covers to use a collection efficiency greater than 75 percent. Alternative final covers may include, but are not limited to, evapotranspiration covers, capillary barrier covers, asphalt covers, or concrete covers. The state, local, or other agency responsible for permitting the landfill determines whether an alternative final cover meets the applicable regulatory requirements and has been shown to adequately protect human health and the environment. This rule does not intend to provide details of the design or implementation of alternative final covers and solely relies on the agency responsible for permitting the landfill to approve an alternative final cover at the facility. For clarity, we are also proposing a definition for alternative final covers to this effect in 40 CFR 98.348.

We are also proposing to revise 40 CFR 98.346(i)(5) to require reporting of the annual hours that active gas flow was sent to each destruction device instead of reporting the annual operating hours for each destruction device associated with a given measurement location. The proposed revision refers to the fraction of hours the destruction device was operating (f_{Dest}), which is a term used in Equations HH-6 and HH-8. The term f_{Dest} is defined as the "fraction of hours the destruction device associated with the n^{th} measurement location was operating during active gas flow calculated as the annual operating hours for the destruction device divided by the annual hours flow was sent to the destruction device as measured at the n^{th} measurement location…" Although no changes are being made to the definition or calculation of f_{Dest}, there is currently no reporting requirement for the "… hours … operating during active gas flow …" in the rule. By collecting these data, the proposed revision would allow the EPA's reporting tool to accurately calculate f_{Dest}, as well as the results of Equations HH-6 and HH-8. More accurate calculation by e-GGRT would improve verification of the existing data by reducing the number

of reporters that override their equation results, resulting in fewer potential errors identified during the verification process. The removal of the current requirement to report the annual operating hours for each destruction device associated with a given measurement location would not impede verification of reported data, as this parameter is not used in the subpart calculations. We are also proposing to move the requirement to report the annual operating hours of the gas collection system for each measurement location in 40 CFR 98.346(i)(7) to 40 CFR 98.346(i)(5) to consolidate all reporting requirements that are associated with each measurement location to the same paragraph, consistent with reporting organization used in e-GGRT.

Finally, landfills with active gas collection systems must calculate and report their GHG emissions in two ways. Equation HH-6 is designed to be driven by the modeled methane generation (*i.e.*, Equation HH-1), whereas Equation HH-8 is driven by methane recovery (*i.e.* Equation HH-4). For a landfill with an active gas collection system, where the quantity of recovered methane is greater than the modeled methane generation (*i.e.*, the result of Equation HH-4 is greater than the result of Equation HH-1), we are proposing that the facility must report the results of Equation HH-8 as the final subpart HH methane emissions instead of the value for Equation HH-6.

We allowed the term G_{CH4} in Equation HH-6 to be substituted with the greater of the Equation HH-4 or Equation HH-1 value to avoid a negative result when the quantity of recovered methane is greater than the modeled methane generation. We reviewed several years of facility data and found a few cases where the amount of methane recovered by the gas collection system was greater than the amount of modeled methane generation. After reviewing the reports where this occurs, as well as examining the difference in net emissions between Equation HH-6 and HH-8 at these facilities, we concluded that the value of Equation HH-6 is not

reliable for use as the final subpart HH emissions when the amount of methane recovered is greater than the amount of modeled methane generation. The substitution of Equation HH-4 for G_{CH4} was only done to prevent a negative value of methane emissions for Equation HH-6. The EPA did not intend for that value to then be used as the total subpart HH emissions since it is not possible to recover more methane from the landfill than was generated. To prevent inaccurate values from being reported as the final subpart HH methane emissions, we are proposing to expressly add the "methane emissions for the landfill" as a reporting element in 40 CFR 98.346(i)(13). This proposed new paragraph directs reporters to "Choose the methane emissions from either Equation HH-6 of this subpart or Equation HH-8 of this subpart that best represents the emissions from the landfill. If the quantity of recovered CH_4 from Equation HH-4 of this subpart is used as the value of G_{CH4} in Equation HH-6 of this subpart, use the methane emissions calculated using Equation HH-8 of this subpart as the methane emissions for the landfill."

For more information on subpart HH confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

3. Other Amendments to Subpart HH and Grant of Petition for Reconsideration

We are proposing two amendments for subpart HH for the reasons described in section II.C of this preamble. These proposed amendments are anticipated to have minimal or no impact on burden for reporters. On April 2, 2013, the EPA proposed flux-dependent oxidation fractions based on data provided by industry representatives (78 FR 19802). While we proposed the use of these oxidation fractions with no minimum soil cover requirement, we received comments on the proposed soil oxidation fractions noting that soil oxidation only occurs with soil of adequate depth, porosity, temperature and microbes. To respond to this comment, we reviewed the soil depths present in the peer-reviewed studies upon which the data were based and determined that

the studies supporting the higher flux-dependent oxidation fractions were performed on soils with an average depth across all of the studies reviewed of 24 inches or more of soil cover. We finalized the proposed flux dependent soil oxidation fractions, and also included a requirement that these flux dependent soil oxidation fractions could only be used if the majority of the landfill area that contains waste has a soil cover of at least 24 inches (78 FR 71971, November 29, 2013). We subsequently received an administrative petition for reconsideration from Waste Management, Inc. (hereafter referred to as "Petitioner") on January 28, 2014 regarding the inclusion of this minimum soil cover requirement in order to use the flux-dependent soil oxidation fractions, titled "Waste Management's Petition for Reconsideration of 2013 Revisions to Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantially Revised Data Elements Docket I.D. EPA-HQ-OAR-2012-0934" (hereafter referred to as the "Petition for Reconsideration," available in the docket for this rulemaking). This section of this preamble discusses the specific issue raised in the Petition for Reconsideration that is addressed in this action, the review and analysis that was undertaken since the Petition for Reconsideration was received, and the changes the EPA is proposing in response to the petition. The EPA intends to complete its response to the Petition for Reconsideration through this rulemaking.

In response to the Petition for Reconsideration, the EPA re-evaluated the available peer-reviewed literature (27 studies) at the time of proposal regarding soil oxidation fractions. This review found that 85 percent of the data points in the literature where both methane oxidized and cover depth were reported had a cover depth of 24 inches or more. This investigation confirmed that the vast majority of the soil oxidation studies were performed on landfills with cover depths of 24 inches or more, which was the basis for the 24 inch soil depth requirement in the final rule

(78 FR 71927, November 29, 2013). However, several of these studies investigated the oxidation profile within the cover soil and several of these studies indicated that the majority of soil oxidation occurs in the top 12 to 15 inches of the soil cover. While some of the data support the idea that the bulk of the oxidation may occur in the top 12 to 15 inches of the soil, it is unclear whether these soils would have had similar oxidation rates if only 12 or 15 inches of soil cover were present. For further details on the review of the soil oxidation literature, see the memorandum entitled "Review of Oxidation Studies and Associated Cover Depth in the Peer-Reviewed Literature" from Kate Bronstein, Meaghan McGrath, and Jeff Coburn, RTI International to Rachel Schmeltz, EPA, dated June 17, 2015, in Docket Id. Number EPA-HQ-OAR-2015-0526.

We also reviewed the codified state standards from all 50 states for requirements regarding intermediate or interim cover depth and found that the depth requirements are not consistent from state to state, and for some states depth requirements are not specified (*e.g.*, Hawaii, Idaho, New Hampshire). Most states require a minimum intermediate cover thickness of 12 inches. Some states include a minimum intermediate cover depth in their regulations that is inclusive of the federally-mandated 6 inches of daily cover depth. For example, Massachusetts requires a minimum intermediate cover depth of 12 inches, including 6 inches of daily cover. Other states, such as Florida, require 12 inches of intermediate cover in addition to the 6 inches of initial cover, thereby requiring 18 inches of intermediate cover in total.

After reviewing the literature on the soil oxidation studies and the codified state standards for intermediate soil cover, we determined that while the literature studies are not conclusive regarding the minimum soil cover necessary for oxidation to occur, they do show that oxidation generally occurs with at least 12 inches of soil cover. Further, most states require at least 12

inches of intermediate soil cover. As a result, we are proposing to revise and clarify the soil cover requirements as follows. First, we are proposing to revise the phrase "… for a majority of the landfill area containing waste…" to read "… for at least 50 percent of the landfill area containing waste…" to clarify that we intended the majority of the landfill to mean 50 percent or more. Second, we are proposing to revise the requirement for "… a soil cover of at least 24 inches …" to read "… intermediate or interim soil cover …" Third, we propose to define intermediate or interim soil cover in 40 CFR 98.348 to mean "the placement of material over waste in a landfill for a period of time prior to disposal of additional waste and/or final closure as defined by state regulation, permit, guidance or written plan, or state accepted best management practice." In the case where a landfill is located in a state that does not have an intermediate or interim soil cover requirement as proposed to be defined, we are proposing to add a footnote to Table HH-4 stating that the landfill must have a soil cover of 12 inches or greater to use an oxidation fraction of 0.25 or 0.35.

Lastly, in our review of the oxidation studies, we noted that some investigators observed that soil methane flux near passive vent locations was low. Most of the landfills where methane flux and soil oxidation were measured occurred at landfills with active gas collection systems. For landfills with passive gas collection, a significant portion of the generated methane can be released via these passive vents and bypass diffusion through the cover soil. That is, landfill gas that is lost through the passive vents would not undergo any soil oxidation. The GHGRP does not currently require, nor are we proposing to require, direct measurement of passive vent flows; thus, a facility is unable to determine the fraction of the generated landfill gas that bypasses the soil cover and it is therefore not possible to estimate a weighted average soil oxidation fraction for landfills with passive vents. It is important to note that the Intergovernmental Panel on

Climate Change 2006 Guidelines[24] recommends the use of oxidation fractions ranging from 0 to 10 percent largely due to the fact that landfill gas will flow primarily through channels of least flow resistance, which one would expect the passive vents to be. If there are fissures in the soil cover (or passive vent systems), a significant portion of the landfill gas will be released without any oxidation occurring. However, we are not proposing to require the use of an oxidation fraction of zero for landfills with passive or active venting because a small portion of the generated landfill gas will pass through the soil cover and undergo soil oxidation. Because we would expect a larger portion of the generated landfill gas to be released via the passive vents, for the portion of the landfill gas that does diffuse through the soil cover the methane flux rate is expected to be small, resulting in a fraction of methane oxidized that is expected to be greater than 10 percent. Considering the gas released through the passive or active vents and the methane that remains to be oxidized in the soil cover, while not precise, the overall oxidation fraction could be expected to average approximately 10 percent. Therefore, we are proposing revisions to Table HH-4 to require landfills that have passive or active vent systems that service greater than 50-percent of the landfill area containing waste or landfills that have only passive or active vent systems to use the default 10 percent oxidation fraction in their emission calculations. The EPA is seeking comment on whether landfills with only passive or active vent systems or landfills with such systems on greater than 50 percent of the landfill area containing waste should be required to use the 10 percent oxidation fraction. If finalized, these changes to Table HH-4 would be effective beginning with the 2016 reporting year and are not retroactive. The table as it appeared before these proposed revisions applies to the relative earlier reporting years.

[24] See IPCC 2006, 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Prepared by the National Greenhouse Gas Inventories Programme, Eggleston H.S., Buendia L., Miwa K., Ngara T. and Tanabe K. (eds). Published: IGES, Japan. Available at: http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html.

While we are proposing to lower the minimum amount of soil cover required to use certain oxidation fractions, we are proposing to require the use of a 10 percent oxidation fraction for landfills with passive or active venting, or for landfills with less than 12 inches of soil cover (that do not also have a geomembrane cover) because application of higher soil oxidation fractions would be inappropriate at landfills with limited cover soils or passive vent systems because a significant portion of the landfill gas may be released through channels or vents with little to no soil oxidation occurring.

We are also proposing to add definitions of "passive vent" and "active venting" to further clarify the rule requirements as they pertain to landfill gas collection system flow and composition monitoring and the use of soil oxidation fractions. Specifically, we are proposing "*Passive vent* means a pipe or a system of pipes that allows landfill gas to flow naturally, without the use of a fan or similar mechanical draft equipment, to the surface of the landfill where an opening or pipe (vent) allows for the free flow of landfill gas to the atmosphere or to a passive vent flare without diffusion through the top layer of surface soil." "*Active venting* means a pipe or a system of pipes used with a fan or similar mechanical draft equipment (forced convection) used to actively assist the flow of landfill gas to the surface of the landfill where the landfill gas is discharged either directly to the atmosphere or to a non-combustion control device (such as a carbon absorber) and then to the atmosphere." As described previously, we are proposing to require landfills with passive vents or active venting to use a default oxidation fraction of 0.1. Providing these definitions clarifies the meaning of these terms and thereby clarifies the reporters that must use the 0.1 oxidation fraction.

4. Minor Corrections and Clarifications to Subpart HH

For the reasons described in section II.D of this preamble, we are proposing several minor corrections and clarifications to subpart HH of Part 98, including editorial changes and clarifications to reporting requirements. These minor revisions are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

T. Subpart II — Industrial Wastewater Treatment

We are proposing amendments to subpart II of Part 98 (Industrial Wastewater). This section discusses the substantive changes to subpart II; additional minor amendments, corrections, and clarifications are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart II to Improve the Quality of Data Collected under Part 98 and Improve the U.S. GHG Inventory

For the reasons described in section II.B of this preamble, the EPA is proposing amendments to subpart II reporting requirements that would provide additional data to support estimates included in the U.S. GHG Inventory, while generally resulting in only a slight increase in burden for reporters.

We are proposing an amendment to 40 CFR 98.356 to require facilities that perform ethanol production to indicate if their facility uses a wet milling process or a dry milling process. To clarify this requirement, we are proposing amendments to 40 CFR 98.358 to add definitions of "wet milling" and "dry milling." The EPA intends to use the data on the numbers of facilities with wet versus dry milling processes and their respective wastewater characteristics to update assumptions used in the U.S. GHG Inventory and thereby improve the estimates of U.S.

emissions from wastewater treatment at ethanol production facilities. In addition, the EPA intends to update the U.S. GHG Inventory using data on the level of biogas recovery in use at wet milling facilities and at dry milling facilities. For more information on subpart II confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

2. Other Amendments to Subpart II

For the reasons described in section II.C of this preamble, the EPA is proposing several clarifying amendments to subpart II; these proposed changes would have no impact on burden for reporters. In order to resolve uncertainties in the reporting requirements in 40 CFR 98.356(b)(1) and 40 CFR 98.356(d)(3) through (d)(6) regarding how to calculate weekly averages for chemical oxygen demand (COD) and 5-day biochemical oxygen demand (BOD_5) concentration, CH_4 concentration, biogas temperature, biogas moisture content, and biogas pressure, the EPA is proposing an amendment to 40 CFR 98.358 to add a definition of the term "weekly average."

3. Minor Corrections and Clarifications to Subpart II

For the reasons described in section II.D of this preamble, we are proposing several minor clarifications to subpart II of Part 98. These minor revisions are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

U. Subpart LL — Suppliers of Coal-based Liquid Fuels

In this action, we are proposing several amendments to subpart LL of Part 98 (Suppliers of Coal-based Liquid Fuels). This section discusses the substantive changes to subpart LL; additional minor amendments, corrections, and clarifications are summarized in the Table of

Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart LL to Streamline Implementation

For the reasons described in section II.A of this preamble, we are proposing several revisions to 40 CFR part 98, subpart LL (Suppliers of Coal-based Liquid Fuels) to clarify requirements and amend data reporting requirements, resulting in a decrease in burden for reporters.

As described in section II.A of this preamble, we are proposing to remove the requirements of 40 CFR 98.386(a)(4), (a)(8), (a)(15), (b)(4), and (c)(4) for each facility, importer, and exporter to report the annual quantity of each coal-based liquid fuel on the basis of the measurement method used. Reporters would continue to report the annual quantities of each coal-based liquid fuel in metric tons or barrels at 40 CFR 98.386(a)(2), (a)(6), (a)(14), (b)(2), and (c)(2). We are also proposing to clarify that the quantity of bulk natural gas liquids (NGLs) reported under 40 CFR 98.386(a)(20) should not include NGLs already reported as individual products under 40 CFR 98.386(a)(2). These changes not only clarify the reporting requirements, but also harmonize subpart LL requirements with those of subpart MM.

2. Minor Corrections and Clarifications to Subpart LL

For the reasons described in section II.D of this preamble, we are proposing several minor clarifications to subpart LL of Part 98. These minor revisions are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

V. Subpart NN — Suppliers of Natural Gas and Natural Gas Liquids

In this action, we are proposing several amendments, clarifications, and corrections to subpart NN of Part 98 (Suppliers of Natural Gas and Natural Gas Liquids). This section discusses the substantive changes to subpart NN; additional minor amendments, corrections, and clarifications are summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart NN to Improve the Quality of Data Collected under Part 98

For the reasons described in section II.B of this preamble, we are proposing one amendment to subpart NN that would improve the quality of the data collected under Part 98 while generally resulting in only a slight increase in burden for reporters. Each local distribution company (LDC) reporting under subpart NN is defined in 40 CFR 98.400(b) as a company that owns or operates distribution pipelines that physically deliver natural gas to end users that are within a single state. LDCs provide the EPA with a corporate address on their certificate of representation which may or may not be within the state where the LDC operates.

The EPA is proposing to add a new reporting requirement at 40 CFR 98.406(b)(14) to support data verification and make the data more useful to the public. The new data element would require LDCs to provide the name of the U.S. state or territory covered in the report. This data element will improve the EPA's ability to compare reported data to information contained in outside data sets (such as those from the EIA). Adding this requirement will enable the EPA to identify a larger portion of LDCs in the EIA data set which will lead to improved data quality in both the EPA and the EIA data sets. This data element will also allow users of GHGRP data to more easily identify the state within which the LDC operates, which will be useful for determining state level GHG totals associated with natural gas supply.

For more information on subpart NN confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

2. Minor Corrections and Clarifications to Subpart NN

For the reasons described in section II. D of this preamble, the EPA is proposing several changes to subpart NN that are corrections, editorial changes, and minor clarifications to improve understanding of the rule. These additional minor corrections to subpart NN are discussed in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

W. Subpart OO — Suppliers of Industrial Greenhouse Gases

In this action, we are proposing several amendments to subpart OO of Part 98 (Suppliers of Industrial Greenhouse Gases). This section discusses all of the proposed changes to subpart OO.

As discussed in section II.B of this preamble, we are proposing revisions that would allow the EPA to collect data that would improve the EPA's understanding of industrial GHG supplies while generally resulting in only a slight increase in burden for reporters. We are proposing three amendments to subpart OO of Part 98 (Suppliers of Industrial Greenhouse Gases) that would improve the quality of the data collection under Part 98 and improve the U.S. GHG Inventory.

We are proposing two revisions to the definition of the source category to include facilities that 1) destroy 25,000 mtCO_2e or more of industrial greenhouse gases and/or fluorinated heat transfer fluids annually; or 2) produce, import, or export fluorinated heat transfer fluids (HTFs) that are not also fluorinated greenhouse gases. We are also proposing to expand

the scope of monitoring and reporting to include production, transformation, destruction, imports, and exports of fluorinated HTFs that are not also fluorinated GHGs.

Revisions to Include Facilities that Destroy Fluorinated GHGs and Fluorinated HTFs. To develop an accurate estimate of the U.S. supply of fluorinated GHGs, it is necessary to track all significant additions to and subtractions from that supply. Additions to the U.S. supply include production and import, while subtractions include transformation, destruction, and export. Currently, subpart OO requires producers and importers to report the quantities of fluorinated GHGs that they produce, import, transform, destroy, or send to another facility for destruction. (Exporters are required to report the quantities of fluorinated GHGs that they export.) While this reporting accounts for destruction by producers and importers, it does not account for destruction by other entities. This may result in a significant underestimate of the quantities destroyed because the fluorinated GHG market includes participants who neither produce nor import industrial GHGs but may end up destroying them, such as refrigerant reclaimers who clean used HFCs for reuse. On occasion, these reclaimers may destroy fluorinated GHGs that are found to be irretrievably contaminated. Alternatively, they may send such fluorinated GHGs to a facility other than a fluorinated gas producer or importer for destruction. In other cases, fluorinated GHG users may themselves recognize that recovered fluorinated GHGs are irretrievably contaminated and send them directly to a destruction facility.

By requiring facilities that destroy fluorinated GHGs to report that destruction, we would capture such destruction and thereby eliminate a potential overestimate of the U.S. supply of fluorinated GHGs. To avoid covering the destruction of very small quantities of fluorinated GHGs that do not have a material impact on the CO_2e fluorinated GHG supply, we are also proposing to require facilities that destroy fluorinated GHGs (and are not otherwise covered by

subpart OO) to report that destruction only if they destroy 25,000 $mtCO_2e$ or more of fluorinated GHGs annually. This is consistent with the thresholds currently applied to facilities that destroy HFC-23 under subpart O and to importers and exporters of industrial GHGs under subpart OO.

This expansion of the definition of the subpart OO source category would apply to facilities that destroy previously produced fluorinated GHGs and that are not already required to report any residual emissions of the destroyed fluorinated GHGs under another subpart. For example, cement kilns that annually accept and destroy a total of 25,000 $mtCO_2e$ or more of irretrievably contaminated HFCs or SF_6 recovered from air-conditioning or electrical equipment would be covered, but electronics manufacturing facilities that dissociate fluorinated GHGs during and/or after etching and chemical vapor deposition chamber cleaning processes would not be covered. Electronics facilities are currently required to report both their emissions and their effective destruction efficiencies under subpart I, and we therefore already receive data to account for the impacts of electronics manufacturing on fluorinated GHG supplies and emissions.

We estimate that five to ten destruction facilities would be newly covered by subpart OO under this amendment. This estimate is based on the number of facilities that report destruction of ozone-depleting substances (ODSs) to the EPA under the Stratospheric Protection Program. Because fluorinated GHGs are chemically similar to ODSs, are manufactured and imported by many of the same facilities and companies that manufacture and import ODSs, and are used in many of the same applications as ODSs, the set of facilities destroying fluorinated GHGs is likely to be similar to the set of facilities destroying ODSs. These facilities include hazardous waste treatment facilities that use a variety of different destruction technologies such as plasma arc and combustion. Facilities destroying very small quantities of ODSs were excluded from the

total because similar quantities of fluorinated GHGs appeared unlikely to equal or exceed the proposed 25,000 $mtCO_2e$ threshold (using an average GWP of 2000).

The same rationale applies to destruction of fluorinated HTFs; reporting by suppliers of fluorinated HTFs is discussed below.

Revisions to Include Facilities that Produce, Import, Transform, Export or Destroy Fluorinated Heat Transfer Fluids and to Require Reporting of these Activities. We are also proposing to revise subpart OO to include entities that produce, import, transform, export, or destroy fluorinated HTFs that are not also fluorinated GHGs under the subpart A definition, and to require monitoring and reporting of these activities from all suppliers that engage in them. Currently, the Suppliers of Industrial Greenhouse Gas source category includes suppliers of, and requires reporting of, nitrous oxide and fluorinated GHGs. The definition of fluorinated GHG excludes compounds whose vapor pressures fall below 1 mm Hg at 25 degrees C, because in applications where temperatures are near or below 25 degrees C, such compounds are not likely to evaporate and enter the atmosphere (74 FR 56348, October 30, 2009). However, fluorinated HTFs are used in electronics manufacturing applications where temperatures can be much higher. Consequently, even compounds whose vapor pressures fall below 1 mm Hg at 25 degrees C can enter the atmosphere when used in these applications. For this reason, subpart I (Electronics Manufacturing) defines fluorinated HTFs to include compounds whose vapor pressures fall below 1 mm Hg at 25 degrees C (as well as above this level) and that are used in temperature control, device testing, cleaning substrate surfaces and other parts, and soldering; and subpart I requires electronics manufacturing facilities to report emissions of these compounds. We are proposing to use essentially the same definition for subpart OO.

Collecting information on the U.S. supply of fluorinated HTFs would enable us to compare reported supplies to the demand for fluorinated HTFs that we calculate based on the emissions 1) reported under subpart I, and 2) estimated for electronics facilities that do not report under subpart I (*e.g.*, because they fall below the threshold). Large differences would imply that emissions are being over- or underestimated, for example because some users and emitters of fluorinated HTFs are not being accounted for.[25] Because many fluorinated HTFs are composed of fully-fluorinated GHGs and have GWPs near 10,000, it is important to ensure that we are accurately accounting for fluorinated HTF emissions on a national level.

Suppliers of fluorinated HTFs would be subject to the same thresholds as suppliers of fluorinated GHGs. That is, there would be no threshold for producers of fluorinated HTFs, but the threshold for importers, exporters, and destroyers of fluorinated HTFs would be 25,000 $mtCO_2e$ of fluorinated HTFs or GHGs. We anticipate that few, if any, suppliers of fluorinated HTFs would be required to begin reporting under this provision because all suppliers of fluorinated HTFs are believed to report under subpart OO already. (One possible exception is facilities that destroy but do not produce or import fluorinated HTFs, but this group of facilities is included in the set of destruction facilities discussed above.) The incremental burden associated with reporting production, import, export, and destruction of fluorinated HTFs that are not also fluorinated GHGs is expected to be modest, *e.g.*, it may involve reporting supplies of one to twelve additional compounds by two to three suppliers of fluorinated HTFs.

For more information on subpart OO confidentiality determinations resulting from these proposed revisions, see section IV of this preamble.

[25] Such differences have been seen for other fluorinated GHGs; a recent comparison between the U.S. supply of SF_6 reported under OO and the demand for SF_6 calculated based on reporting under subparts I, T (Magnesium Production), DD (Electrical Transmission and Distribution Equipment Use), and SS (Electrical Equipment Manufacture or Refurbishment) found that in 2012, supplies exceeded the calculated demand by more than half.

X. Subpart RR – Geologic Sequestration of Carbon Dioxide

In this action, we are proposing amendments to subpart RR of Part 98 (Geologic Sequestration of Carbon Dioxide). This section discusses all of the proposed changes to subpart RR.

As discussed in section II.B of this preamble, we are proposing revisions that would allow the EPA to collect data that would improve the EPA's understanding of GHG emissions from geologic sequestration, while generally resulting in a minimal increase in burden for reporters. The EPA is proposing to add a data reporting element to 40 CFR 98.446 to indicate whether the facility is injecting a CO_2 stream in subsurface geologic formations to enhance the recovery of oil or natural gas. This additional data element will also allow the EPA to make categorical confidentiality determinations on data elements related to CO_2 received and CO_2 produced that currently have a confidentiality status that is evaluated on a case-by-case basis (77 FR 48072, 48081-48083; August 13, 2012). For more information on subpart RR confidentiality determinations resulting from this proposed revision, see section IV of this preamble.

Y. Subpart TT — Industrial Waste Landfills

In this action, we are proposing amendments to subpart TT of Part 98 (Industrial Waste Landfills). This section discusses the substantive changes to subpart TT; one additional correction is summarized in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

1. Revisions to Subpart TT to Improve the Quality of Data Collected under Part 98

For the reasons described in section II.B of this preamble, the EPA is proposing several amendments to Table TT-1 to subpart TT of Part 98 that would improve the quality of the data collected under the GHGRP and improve the EPA's understanding of sector GHG emissions, and

are anticipated to either have no impact on the burden for reporters or may reduce burden for some facilities currently using site-specific factors. During the development of subpart TT, we received several comments regarding the need to provide more default DOC values for specific industrial waste streams, particularly from the pulp and paper industry. Additionally, on May 17, 2013, we received written comments from the American Forest and Paper Association and the American Wood Council, with input from the National Council for Air and Stream Improvement, on the proposed 2013 Revisions to the Greenhouse Gas Reporting Rule and Proposed Confidentiality Determination for New or Substantially Revised Data Elements (78 FR 19802, April 2, 2013). These comments stated that the current DOC values in Table TT-1 overstate substantially the GHG emissions from landfills at pulp and paper mills. (See Docket Id. No. EPA-HQ-OAR-2012-0934). One suggested resolution was for the EPA to create separate categories of wastes that would include largely inorganic waste streams and assign a lower DOC value in Table TT-1. At that time, the information provided in the comments was considered new, the comments contained only limited data on which to base any changes, and they did not address items that were not part of the proposal. The EPA also did not have data to develop more waste specific DOC values for any of the industrial waste categories. Instead, we provided methods in the rule that allowed reporters to develop site-specific DOC values for wastes that may not be well-characterized by the default values provided in Table TT-1. While we still maintain that site-specific DOC values are preferable to the Table TT-1 defaults, we reviewed the site-specific DOC values reported under subpart TT from 2011 to 2013 to determine if we had adequate data to develop more specific industry default DOC values for inclusion in Table TT-1. For most industries, we did not have enough data from site-specific DOC estimates to establish new or revise default DOC values for inclusion in Table TT-1. However, we had site-

specific DOC data for over 100 waste streams at pulp and paper manufacturing facilities. We note that the pulp and paper industry accounts for approximately 55 percent of the subpart TT reporters and accounts for 62 percent of the emissions reported during the 2013 reporting year. Within the data, we found four general pulp and paper waste types for which reporters commonly developed site-specific DOC values. These are: boiler ash, kraft recovery (causticizing) wastes, wastewater treatment sludges, and other (which included hydropulper rejects, bark wastes, and digester knots). We found that our general pulp and paper waste (other than industrial sludge) default DOC value was reasonable for the "other" waste category, but overestimated DOC content for other pulp and paper waste streams. Boiler ash and kraft recovery wastes had very low DOC values, but not low enough to be considered "inerts." We also found that wastewater treatment sludges for the pulp and paper industry had, on average, a slightly higher DOC content than the default for "industrial sludge." See memorandum, "Review of Site-Specific Industrial Waste Degradable Organic Content Data" from Jeff Coburn and Katherine Bronstein, RTI International to Rachel Schmeltz, EPA, dated June 17, 2015 in Docket Id. EPA-HQ-OAR-2015-0526.

Based on the available site-specific DOC values for these different pulp and paper industry wastes, we consider it appropriate to provide additional default DOC values for the pulp and paper industry for the purposes of improving the accuracy of the methane emissions estimates reported under subpart TT. Specifically, we are proposing to provide default DOC values for the four specific pulp and paper industry waste types previously listed. The proposed default DOC value for boiler ash is 0.06; the proposed default DOC value for kraft recovery wastes is 0.025. As proposed, these values, rather than the previous "pulp and paper waste (other than industrial sludge)" default value of 0.20 or the "Inert Waste [*i.e.*, waste listed in 40 CFR

98.460(c)(2)]" default value of 0, should be used for these specific waste streams. The proposed default DOC value for pulp and paper wastewater sludge is 0.12, which would be required, as proposed, for pulp and paper wastewater treatment sludges rather than the generic "Industrial Sludge" default value of 0.09. The fourth category being proposed is "Other Pulp and Paper Wastes (not otherwise listed)" and is to be used for all other pulp and paper wastes not included in the three other pulp and paper categories; the proposed default DOC value for this category is 0.20, which is consistent with the previous default for general pulp and paper wastes. In addition, we are adding a footnote to Table TT-1 to explain that kraft recovery wastes include green liquor dregs, slaker grits, and lime mud, which may also be referred to collectively as causticizing or recausticizing wastes. Reporters used any and all of these terms in their submitted reports to refer to these waste types.

While we are proposing to provide these specific defaults for different types of waste in the pulp and paper industry, we do not intend to prevent the pulp and paper industry from using the other default values in Table TT-1 that may apply. For example, if construction and demolition wastes are disposed of in a landfill at a pulp and paper manufacturing facility, the reporter may still use the construction and demolition waste default DOC value for these waste streams. However, to clarify, we intend to require the pulp and paper industry to use the industry-specific wastewater sludge default DOC value, and are therefore proposing to revise the "Industrial Sludge" category to be "Industrial Sludge (other than pulp and paper industry sludge)."

2. Minor Corrections and Clarifications to Subpart TT

For the reasons described in section II.D of this preamble, we are proposing one minor correction to subpart TT of Part 98 that is an editorial change. This minor revision is summarized

in the Table of Revisions available in the docket for this rulemaking (Docket Id. No. EPA-HQ-OAR-2015-0526).

Z. Other Minor Revisions, Clarifications, and Corrections

In addition to the substantive amendments proposed in sections III.A through III.Y of this preamble, for the reasons described in section II.D of this preamble, we are proposing minor revisions, clarifications, and corrections to subparts P, U, MM, PP, and UU of Part 98. The proposed changes to these subparts are provided in the Table of Revisions for this rulemaking, available in Docket Id. No. EPA–HQ–OAR–2015-0526, and include clarifying requirements to better reflect the EPA's intent, corrections to calculation terms or cross-references that do not revise the output of calculations, harmonizing changes within a subpart (such as changes to terminology), simple typographical errors, and other minor corrections (*e.g.*, removal of redundant text).

IV. Proposed Confidentiality Determinations for New or Changed Data Reporting Elements

A. Overview and Background

In this notice we are proposing confidentiality determinations for new or substantially revised reporting data elements (*i.e.*, the data required to be reported would change under the proposed revision) in the proposed subpart rule amendments. We are also proposing confidentiality determinations for certain existing data elements for which a confidentiality determination has not previously been proposed or finalized, or where the EPA has determined that the current determination is no longer appropriate.

In this action, we are proposing confidentiality determinations for 117 new or substantially revised data reporting requirements in 21 subparts. We are not proposing new

confidentially determinations for data reporting elements where the change does not require an additional or different data element to be reported. The final confidentiality determinations the EPA has previously made for these minimally revised data elements are unaffected by this proposed amendment and continue to apply.

We are also proposing confidentiality determinations for 27 existing data elements in subparts I, Z, MM, NN, PP, and RR that are not revised in the proposed amendments. These include 22 data elements in subparts I, Z, MM, and RR for which the EPA had not made previous confidentiality determinations under Part 98, as well as two data elements in subpart NN for which a previous confidentiality determination is proposed to be revised because of new information indicating the data element is not entitled to confidential treatment under the provisions in 40 CFR 2.208. We are also proposing confidentiality determinations for three data elements in subpart PP that were included in the finalized "Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units" (EGU NSPS) (Docket Id. No. EPA-HQ-OAR-2013-0495).

These proposed confidentiality determinations would be finalized before the end of 2016 based on public comment. The confidentiality determinations for new and substantially revised data elements would apply at the same time as the proposed rule amendments described in sections II and III of this preamble, as described in section I.E of this preamble. The confidentiality determinations for the existing Part 98 data elements would apply to reports submitted in RY2016 as well as all prior reporting years in which the data elements applied. This proposal is one of a series of rulemakings dealing with confidentiality determinations for data reported under Part 98. For more information on previous confidentiality determinations for Part 98 data elements, see the following notices:

- 75 FR 39094, July 7, 2010; hereafter referred to as the "July 7, 2010 CBI proposal." Describes the data categories and category-based determinations the EPA developed for the Part 98 data elements.
- 76 FR 30782, May 26, 2011; hereafter referred to as the "2011 Final CBI Rule." Assigned data elements to data categories and published the final CBI determinations for the data elements in 34 Part 98 subparts, except for those data elements that were assigned to the "Inputs to Emission Equations" data category.
- 77 FR 48072, August 13, 2012, hereafter referred to as "2012 Final CBI Determinations Rule." Finalized confidentiality determinations for data elements reported under nine subparts I, W, DD, QQ, RR, SS, UU; except for those data elements that are inputs to emission equations. Also finalized confidentiality determinations for new data elements added to subparts II and TT in the November 29, 2011 Technical Corrections Notice (76 FR 73886).
- 78 FR 68162; November 13, 2013; hereafter referred to as the "2013 Amendments and Confidentiality Determinations for Electronics Manufacturing." Finalized confidentiality determinations for new data elements added to subpart I.
- 78 FR 69337, November 29, 2013; hereafter referred to as the "2013 Revisions Rule." Finalized determinations for new and revised data elements in 15 subparts, except for those data elements assigned to the "Inputs to Emission Equations" data category.
- 79 FR 63750, October 24, 2014; Final Inputs Rule. Revised recordkeeping and reporting requirements for 23 subparts and finalized confidentiality determinations for new data elements in 11 subparts.

B. Approach to Proposed Confidentiality Determinations

To make the determinations proposed in this notice, we applied the same approach as previously used for making confidentiality determinations for data elements reported under the GHGRP, which consisted of assigning data elements to an appropriate data category and then either assigning the previously determined category-based confidentiality determination or making an individual determination if the data element is assigned to a category for which no category-based determination was previously made. The data categories used were those finalized in the 2011 Final CBI Rule.

In the 2011 Final CBI Rule, the EPA made categorical confidentiality determinations for data elements assigned to eight direct emitter data categories and eight supplier data categories. For two direct emitter data categories ("Unit/Process 'Static' Characteristics that Are Not Inputs

to Emission Equations" and "Unit/Process Operating Characteristics that Are Not Inputs to Emission Equations,") and three supplier data categories ("GHGs Reported," "Production/ Throughput Quantities and Composition," and "Unit/Process Operating Characteristics"), the EPA did not make categorical CBI determinations; instead the EPA determined that none of the data elements were emissions data (as defined in 40 CFR 2.301(a)(2)(i)) and made CBI determinations for each individual data elements based on the criteria in 40 CFR 2.208. In subsequent amendments to Part 98,[26] the EPA assigned each new or substantially revised data element to an appropriate data category created in the 2011 Final CBI Rule and applied the categorical confidentiality determination if one was established in the 2011 Final CBI Rule. If a data element was assigned to one of the two direct emitter or three supplier data categories identified above that do not have categorical determinations, the EPA made individual CBI determinations.

In this action, we are proposing to assign new and substantially revised data elements in the proposed amendments, as well as certain existing data elements in subparts I, Z, II, MM, NN, PP, and RR, to the appropriate direct emitter or supplier data category.[27] For new, substantially revised, or existing data elements being assigned to categories with categorical confidentiality determinations, we propose to apply the categorical determinations made in the 2011 Final CBI

[26] See, *e.g.*, 77 FR 48072 (August 13, 2012) and 77 FR 51477 (August 24, 2012).

[27] With the exception of subpart RR, the EPA inadvertently did not proposed CBI determinations for these data elements. For subpart RR, the EPA initially proposed that all data elements were not CBI (see Proposed Confidentiality Determinations for Data Elements Under the Mandatory Reporting of Greenhouse Gases, 77 FR 1434; January 10, 2012). We then received comment that in certain cases, for enhanced recovery of oil or natural gas (ER), the data would be CBI. In the 2012 Final CBI Determinations Rule, the EPA did not have a subpart RR data element to distinguish between the ER and non-ER facilities. Therefore, the EPA did not finalize the CBI determinations for those certain cases, but rather noted that the EPA would evaluate the confidentiality status on a case-by-case basis. The remaining subpart RR data elements (including monitoring, reporting, and verification (MRV) plans, annual mass of CO_2 emitted by surface leakage, and annual mass of CO_2 sequestered) were determined not to be CBI in the 2012 Final CBI Determinations Rule. In this action, we are proposing to add a new data element to indicate whether a facility is conducting ER, which now enables proposed confidentiality determinations to be made.

Rule to the assigned data elements. For new, substantially revised, or existing reporting elements assigned to the "Unit/Process 'Static' Characteristics that Are Not Inputs to Emission Equations" and the "Unit/Process 'Operating' Characteristics that Are Not Inputs to Emission Equations" direct emitter data categories or the "Production/Throughput Quantities and Composition" and "Unit/Process Operating Characteristics" supplier data categories, consistent with our approach toward data elements previously assigned to these data categories, we propose that these data elements are not emission data, and are making individual CBI determinations for the data elements in these categories.

Although the EPA grouped similar data into categories and made categorical confidentiality determinations for a number of data categories, the EPA also recognized in previous rulemakings that similar data elements may not always have the same confidentiality status[28]. In these cases, the EPA made individual instead of categorical determinations for the data elements. In this action, for the reasons explained below in section IV.C of this preamble, we are proposing to make an individual CBI determination for one data element for which we are not assigning a data category.

Please see the memorandum titled "Proposed Data Category Assignments and Confidentiality Determinations for Data Elements in the Proposed 2015 Revisions" in Docket Id. No. EPA-HQ-OAR-2015-0526 for a list of the proposed new, substantially revised, and existing data elements, their proposed category assignments, and their proposed confidentiality determinations (whether categorical or individual).[29] Section IV.C of this preamble discusses the proposed CBI determinations and supporting rationale for new or substantially revised data

[28] See, *e.g.*, "Greenhouse Gas Reporting Rule: 2014 Revisions and Confidentiality Determinations for Petroleum and Natural Gas Systems" (79 FR 70352, November 25, 2014).

[29] Excludes data elements assigned to the "Inputs to Emissions Equations" data category. "Inputs to Emissions Equations" are considered emissions data. This memorandum includes the data element that is not being assigned to a data category.

elements. Section IV.D of this preamble describes the proposed CBI determinations and supporting rationale for existing data elements for which we have not previously proposed a confidentiality determination. Finally, section IV.E of this preamble discusses the proposed changes to the determinations and rationale for two existing data elements in subpart NN for which a confidentiality determination was previously established.

C. Proposed Confidentiality Determinations for New or Substantially Revised Data Reporting Elements

In this action, the EPA is proposing to assign each of the 117 new or substantially revised data reporting requirements to the appropriate direct emitter or supplier data category. New and substantially revised data elements assigned to categories with categorical confidentiality determinations are summarized in the memorandum "Proposed Data Category Assignments and Confidentiality Determinations for Data Elements in the Proposed 2015 Revisions," available in Docket Id. No. EPA-HQ-OAR-2015-0526. For new and substantially revised reporting elements assigned to direct emitter or supplier data categories without a categorical determination, we are proposing that these data elements are not emission data and are making individual CBI determinations for each data element. We are proposing individual CBI determinations for 48 data elements assigned to the "Unit/Process 'Static' Characteristics that Are Not Inputs to Emission Equations" and "Unit/Process 'Operating' Characteristics that Are Not Inputs to Emission Equations" direct emitter data categories and the "Production/Throughput Quantities and Composition" and "Unit/Process Operating Characteristics" supplier data categories. These data elements consist of 17 new data elements in the direct emitter subparts C, E, F, I, S, V, X, Y, DD, II, and subpart RR, and 27 new data elements in the supplier subpart OO. We are also proposing individual CBI determinations for four substantially revised data elements in subparts

Y, DD, HH, and II. Table 7 of this preamble provides the category assignment and proposed rationale for the proposed determinations.

Table 7. New and Revised Data Elements Proposed to be Assigned to Data Categories without Categorical Determinations and Proposed CBI Determinations (Subparts C, E, F, I, S, V, X, Y, DD, HH, II, OO, and RR)

Subpart	Citation in 40 CFR part 98 (new or revised)	Data element	Confidentiality Determination	Rationale for the proposed CBI determination
Data Elements Proposed to be Assigned to the "Unit/Process 'Static' Characteristics that Are Not Inputs to Emission Equations" Direct Emitter Data Category				
C	98.36(c)(1)(iii) (new)	Cumulative maximum rated heat input capacity of the group, excluding units less than 10 (mmBtu/hr).	Not CBI	These data elements consist of descriptions of the cumulative heat input capacity for an aggregated group of stationary combustion units. These data elements do not reveal any proprietary information or any other information that could provide insight for competitors to gain an advantage because they do not provide specific design details. Further, these data elements provide information that that is generally already available to the public through other sources (*e.g.*, operating permits). Therefore, we are proposing that these data elements are not CBI.
C	98.36(c)(3)(ii) (new)	Cumulative maximum rated heat input capacity of the units served by the common pipe, excluding units less than 10 (mmBtu/hr).	Not CBI	
E	98.56(f) (new)	Date of installation of abatement technology.	Not CBI	These data elements do not provide insight into current production rates, raw material consumption, or other information that competitors could use to discern market share and other sensitive information. Information regarding the date of installation of abatement devices constitute general information that is already available to the public through other sources (*e.g.*, construction permits). Therefore, we are proposing that this data element is not CBI.
I	98.96(y)(2)(iv) (new)	The report must include the information described in paragraphs (y)(2)(i) through (v) of this section. (iv)…For any utilization, by-product formation rate, and/or	Not CBI	The data element for the triennial technology review report is being revised to request additional information to be submitted as part of the report, if facilities are submitting data from utilization and byproduct formation rate measurements conducted in the prior three years. The EPA previously made a determination

		destruction or removal efficiency data submitted, the report must describe, where available: wafer size.		that 40 CFR 98.96(y)(2)(iv) was emission data and, therefore, not CBI. Several of the data elements that we are proposing to clarify should be included are already reported under 40 CFR 98.96 (*e.g.*, wafer diameter) and the EPA is proposing the same category assignment and confidentiality determination for these data elements, including: • the wafer size• substrate type. Wafer size and substrate type are data elements that are published in datasets available from the World Fab Forecast. Furthermore, for the purposes of the triennial report, these data elements may be reported by one or multiple semiconductor manufacturing facilities, and may include measurements made by tool manufacturers or other fabs in lieu of fab-specific information. Therefore, we have concluded that the release of these data elements would not cause substantial competitive harm. For these reasons, we are proposing to assign a determination of not CBI.
I	98.96(y)(2)(iv) (new)	The report must include the information described in paragraphs (y)(2)(i) through (v) of this section. (iv)…For any utilization, by-product formation rate, and/or destruction or removal efficiency data submitted, the report must describe, where available: substrate type.	Not CBI	
I	98.96(y)(2)(iv) (new)	The report must include the information described in paragraphs (y)(2)(i) through (v) of this section. (iv)…For any utilization, by-product formation rate, and/or destruction or removal efficiency data submitted, the report must describe, where available: film type being manufactured.	CBI	The data element for the triennial technology review report is being revised to request additional information to be submitted as part of the report, if facilities are submitting data from utilization and byproduct formation rate measurements conducted in the prior three years. We are proposing that the "film type" is CBI because this data element could potentially provide insight into facility operating practices or proprietary device designs that are considered sensitive by the reporter. Information provided by semiconductor manufacturers in prior rulemakings indicates that this data element is closely guarded and protected as sensitive business information.
I	98.96(y)(2)(iv) (new)	The report must include the information described in paragraphs (y)(2)(i) through (v) of this section.	Not CBI	This data element for the triennial technology review report is being revised to request additional information to be submitted as part of the report, if facilities are submitting data from utilization and byproduct

		(iv)…For any utilization, by-product formation rate, and/or destruction or removal efficiency data submitted, the report must describe, where available: linewidth or technology node.		formation rate measurements conducted in the prior three years. We are proposing that the "linewidth or technology node" be categorized as "Unit/Process 'Static' Characteristics That are Not Inputs to Emission Equations" because this data elements describes basic characteristics of the products and processes in the facility that do not vary with time. We are proposing that the "the linewidth or technology node" are Not CBI because this data is publicly available. Specifically, these data elements are published in datasets available from the World Fab Forecast. We have therefore concluded that the release of this data will not cause substantial competitive harm.
V	98.226(h) (new)	Date of installation of abatement technology.	Not CBI	This data element does not provide insight into current production rates, raw material consumption, or other information that competitors could use to discern market share and other sensitive information. Information regarding the date of installation of abatement devices constitute general information that is already available to the public through other sources (*e.g.*, construction permits). Therefore, we are proposing that this data element is not CBI.
Y	98.256(e)(3) (new)	An indication of whether or not the flare is serviced by a flare gas recovery system	Not CBI	The proposed data element, which describes whether the flare is serviced by a flare gas recovery system, is similar to: 40 CFR 98.256(e)(3) (description of flare gas service) and 40 CFR 98.326(q) (annual operating hours of gas collection system), for which we have previously assigned a "Not CBI" designation. Descriptions of flare gas service are not CBI because describing the type of flare or whether a flare is serviced by a flare gas recovery system does not reveal any confidential information because flares are commonly used in the industry and no detailed specifications are required to be reported (see 75 FR 39113, July 7, 2010).
DD	98.306(m) (new)	Total miles of transmission and	Not CBI	This data element is the same type of data that must be reported by these

		distribution lines located within each state or territory.		companies in 40 CFR 98.306(b) and (c), which requires reporting of the aggregate length all transmission lines carrying voltages above 35 kilovolt and the aggregate length all distribution lines carrying voltages above 35 kilovolt, for which we previously assigned a determination of not CBI. We had determined that the length of distribution lines and length of transmission lines are basic characteristics of equipment, and that facility-specific lines that do not vary with time or with the operations of the process. Moreover, facilities reporting under this subpart consist of public utilities, including electric cooperatives, public supply corporations (*e.g.*, Tennessee Valley Authority), Federal agencies (*e.g.*, Bonneville Power Administration), and municipally owned electric utilities. These are public or publicly-regulated utilities that are not affected by competitive market conditions that may apply to other industries. Further, data on transmission and distribution miles is publicly available in the Platts UDI Directory of Electric Power Producers and Distributers, which can be purchased by any interested party. Disclosure of this proposed new data element by the EPA would not provide any additional insight into facility-specific operating conditions or process design or to any other proprietary or sensitive information that would give insight for competitors to gain an advantage over the reporter.
DD	98.306(n) (new)	The following numbers of pieces of equipment: (1) New hermetically sealed-pressure switchgear during the year. (2) New SF6- or PFC-insulated equipment other than hermetically sealed-pressure switchgear during the year.	Not CBI	Facilities reporting under this subpart consist of public utilities, including electric cooperatives, public supply corporations (*e.g.*, Tennessee Valley Authority), Federal agencies (*e.g.*, Bonneville Power Administration), and municipally owned electric utilities. These are public or publicly-regulated utilities that are not affected by competitive market conditions that may apply to other industries. The reported data relate to maintenance

		(3) Retired hermetically sealed-pressure switchgear during the year. (4) Retired SF6- or PFC-insulated equipment other than hermetically sealed-pressure switchgear during the year.		activities and installation of new/replacement of existing gas-insulated equipment (*e.g.*, circuit breakers, switchgear, power transformers, etc.) and amounts of SF6 and PFC used or recovered in servicing or replacing such equipment. These data elements do not disclose any information about a manufacturing process or operating conditions that would be proprietary. Therefore, we are proposing that these data elements are not CBI.
II	98.356(a) (revised)	The average depth in meters of each anaerobic lagoon	Not CBI	For the industries with industrial wastewater treatment, the types of information that are considered proprietary or have previously been determined to be CBI in the May 26, 2011 final CBI determination notice include information on quantities and composition of raw materials used in the manufacturing processes and information on quantities and compositions of manufactured products. We are proposing that this data element is not CBI because this data element would not provide detailed insight into the design and operation of the facility's manufacturing processes, raw materials, or products.
II	98.356(a) (revised)	Indicate whether biogas generated by each anaerobic process is recovered	Not CBI	For these industries, the types of information that are considered proprietary or have previously been determined to be CBI in the May 26, 2011 final CBI determination notice include information on quantities and composition of raw materials used in the manufacturing processes and information on quantities and compositions of manufactured products. We are proposing that this data element is not CBI because indicating whether biogas is recovered from an anaerobic process would not provide detailed insight into the design and operation of the facility's manufacturing processes, raw materials, or products, and provides only general information about the wastewater treatment system that is not considered sensitive by

				manufacturers.
II	98.356(b)(6) (new)	For each anaerobic wastewater treatment process (reactor, deep lagoon, or shallow lagoon) you must report: If the facility performs an ethanol production processing operation as defined in §98.358 of this subpart, you must indicate if the facility uses a wet milling process or a dry milling process.	Not CBI	For the industries with industrial wastewater treatment, the types of information that are considered proprietary or have previously been determined to be CBI in the May 26, 2011 final CBI determination notice include information on quantities and composition of raw materials used in the manufacturing processes and information on quantities and compositions of manufactured products. We are proposing that this data element is not CBI because this data element would not provide detailed insight into the design and operation of the facility's manufacturing processes raw materials, or products that is considered sensitive by reporters. This data element indicates only that the facility uses wet and/or dry milling, which is information that would be available from the facility's construction and Title V operating permits. This data element combined with the volume of wastewater entering the treatment plant (reported under 40 CFR 98.356(b)(2)) provides information on the quantities of wastewater generated by wet and dry milling activities. However, this information does not provide insight into any sensitive information, such as the amount of grain processed through the wet and dry milling processes, the amount of ethanol produced, plant production efficiency, or production costs.
RR	98.446(g) (new)	Whether the CO_2 stream is being injected into subsurface geologic formations to enhance the recovery of oil or natural gas.	Not CBI	This data element would identify whether a facility is performing enhanced oil recovery. We are proposing that this data element is not CBI because this data element does not reveal any significant details regarding the activities at the facility, the quantities of CO_2 received, or the CO_2 utilization rates of the facility.
Data Elements Proposed to be Assigned to the "Unit/Process 'Operating' Characteristics that Are Not Inputs to Emission Equations" Direct Emitter Data Category				
F	98.66(c)(2) (new)	The following PFC-specific information on	CBI	While the proposed new data elements share characteristics with data

		an annual basis: Anode effect minutes per cell-day (AE-mins/cell-day), anode effect frequency (AE/cell-day), anode effect duration (minutes). (Or anode effect overvoltage factor ((kg CF4/metric ton Al)/(mV/cell day)), potline overvoltage (mV/cell day), current efficiency (%).)		elements previously assigned to the "Production/Throughput Data that are Not Inputs to Equations" data categories, we have determined that they do not share the same characteristics or confidentiality status as the data elements already assigned to this data category. These data elements are not inputs to emissions equations. Annual anode effect minutes per cell day, anode effect frequency, anode effect duration (or annual anode effect overvoltage factor, potline overvoltage, and current efficiency) describe operating characteristics associated with aluminum production. Our review of these data elements shows that they qualify for confidential treatment. We are proposing to classify annual average anode effect minutes, anode effect frequency, and anode effect duration as CBI because these data elements are an important measure of process efficiency (which provides insight into a firm's operational strengths and weaknesses) and are not otherwise publicly available.
S	98.196(b)(21) (new)	Annual average results of chemical composition analysis of each type of lime product produced and calcined product or waste sold	CBI	The proposed data elements describe the material composition of the products manufactured. These values are not used as inputs to emissions equations, rather, they are annual average values for the purposes of QA/QC of the composition data used as inputs to the emissions calculations. We are proposing these data elements as CBI because the reported data provides information on the composition of lime produced or raw material. Disclosing information revealing a facility's product compositions could give competitors insight into a firm's local and regional market conditions and expansion plans, enabling competitors to devise strategies to prevent expansion and to steal market share in specific locations.
X	98.246(a)(14) (new)	Annual average of the measurements of the carbon content of each	CBI	The proposed data elements describe the carbon content and annually averaged weight of feedstocks. This

		feedstock and product: (i) For feedstocks and products that are gaseous or solid, report this quantity in kg carbon per kg of feedstock or product. (ii) For liquid feedstocks and products, report this quantity either in units of kg carbon per kg of feedstock or production or kg C per gallon of feedstock or product.		information could disclose a facility's feedstock composition, which could provide insight into its operational strengths and weaknesses, expose its competitive and marketing strategies, or reveal its suppliers and sourcing strategies. Therefore, we are proposing that these data element qualify as CBI.
X	98.246(a)(15) (new)	For each gaseous feedstock and product, the annual average of the measurements of molecular weight in units of kg per kg mole	CBI	
Y	98.256(e)(6) (revised)	Annual mass of flare gas combusted (in kg/yr)	Not CBI	The proposed data element, which describes the annual mass of flare gas combusted, is similar to: 40 CFR 98.256(e)(3) (description of flare gas service) and 40 CFR 98.326(q) (annual operating hours of gas collection system), for which we have previously assigned a "Not CBI" designation. Descriptions of flare gas service are not CBI. Describing the annual mass of flare gas combusted during the reporting year does not reveal any confidential information because flares are commonly used in the industry and no detailed specifications are required to be reported (see 75 FR 39113, July 7, 2010).
HH	98.346(i)(5)(iii)(B) (revised)	The annual operating hours where active gas flow was sent to each destruction device.	Not CBI	This data element describes the operating characteristics of a destruction device. Although the proposed data element is similar to the prior data element in 40 CFR 98.346(i)(5) "Annual operating hours for each destruction device associated with a given measurement location," this data element reflects a separate operating parameter. This data element is not an input to an emissions equation. We are proposing that this

				data element is Not CBI. This data element would not reveal any information about landfill fees, revenues, costs, or contracts. Such information does not reveal any trade secrets or other sensitive business information regarding the design or operation of an aeration system or the landfill. Further, this type of data on landfills is generally already publicly available from the municipalities operating landfills. We have therefore concluded that the release of this data will not cause substantial competitive harm.
Data Elements Proposed to be Assigned to the "Production/Throughput Quantities and Composition" Supplier Data Category				
OO	98.416(a)(1) (new)	Mass in metric tons of each …fluorinated HTF …produced at that facility by process, except for amounts that are captured solely to be shipped off site for destruction.	CBI	These data elements describe production and throughput quantities and product compositions (including products produced, imported, or exported). These data elements are the same type of data that must be reported for fluorinated GHGs, for which we have previously assigned a determination of CBI. The disclosure of annual production quantities and composition of products (*i.e.*, quantities sold and/or delivered), could provide insight into a firm's market strength and position. Disclosure of facility-level production/ throughput quantities and product compositions could give competitors insight into a firm's local and regional market conditions and expansion plans, enabling competitors to devise strategies to prevent expansion and to steal market share in specific locations. Therefore, the EPA proposes to determine that these data elements are CBI.
OO	98.416(a)(2) (new)	Mass in metric tons of each …fluorinated HTF …transformed at that facility, by process.	CBI	
OO	98.416(a)(3) (new)	Mass in metric tons of …fluorinated HTF that is destroyed at that facility and that was previously produced as defined at §98.410(b). Quantities to be reported under this paragraph (a)(3) of this section include but are not limited to quantities that are shipped to the facility by another facility for destruction and quantities that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore destroyed.	CBI	

OO	98.416(a)(5) (new)	Total mass in metric tons of each...fluorinated HTF... sent to another facility for transformation.	CBI	
OO	98.416(a)(6) (new)	Total mass in metric tons of each … fluorinated HTF sent to another facility for destruction, except…fluorinated HTFs that are not included in the mass produced in §98.413(a) because they are removed from the production process as by-products or other wastes. Quantities to be reported under this paragraph (a)(6) could include, for example, fluorinated GHGs that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore sent to another facility for destruction.	CBI	
OO	98.416(a)(7) (new)	Total mass in metric tons of each . . . fluorinated HTF that is sent to another facility for destruction and that is not included in the mass produced in §98.413(a) because it is removed from the production process as a byproduct or other waste.	CBI	
OO	98.416(a)(11) (new)	Mass in metric tons of . . . fluorinated HTF that is fed into the destruction device and that was previously produced as defined at §98.410(b). Quantities to be reported under	CBI	

		this paragraph (a)(11) of this section include but are not limited to quantities that are shipped to the facility by another facility for destruction and quantities that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore destroyed.		
OO	98.416(a)(12) (new)	Mass in metric tons of . . . fluorinated HTF . . . that is measured coming out of the production process, by process.	CBI	
OO	98.416(a)(14) (new)	Quantities (metric tons) of ... of each ... fluorinated HTF that were sent to each for transformation.	CBI	
OO	98.416(a)(15) (new)	Quantities (metric tons) of each … fluorinated HTF that were sent to each for destruction.	CBI	
OO	98.416(c)(1) (new)	Each bulk importer of …fluorinated HTFs … at the corporate level… (1) Total mass in metric tons of …each ….fluorinated HTF imported in bulk, including each... fluorinated HTF constituent of the… fluorinated HTF product that makes up between 0.5 percent and 100 percent of the product by mass.	CBI	
OO	98.416(c)(2) (new)	Each bulk importer of …fluorinated HTFs … at the corporate level… (2) Total mass in metric tons of . . . fluorinated HTF imported in bulk and	CBI	

		sold or transferred to persons other than the importer for use in processes resulting in the transformation or destruction of the chemical.		
OO	98.416(c)(6) (new)	Each bulk importer of …fluorinated HTFs … at the corporate level… (6) Commodity code of the ... fluorinated HTFs ...shipped.	CBI	
OO	98.416(c)(8) (new)	Each bulk importer of …fluorinated HTFs … at the corporate level… (8) Total mass in metric tons of each…fluorinated HTF destroyed by the importer.	CBI	
OO	98.416(c)(9) (new)	Each bulk importer of …fluorinated HTFs … at the corporate level… (9) Quantities of fluorinated HTFs sold or transferred to each facilities for transformation.	CBI	
OO	98.416(c)(10) (new)	Each bulk importer of …fluorinated HTFs … at the corporate level… (10) If applicable, the quantities (metric tons) of each . . . fluorinated HTF that were sold or transferred to each facility for destruction.	CBI	
OO	98.416(d)(1) (new)	Each bulk exporter of fluorinated GHGs, fluorinated HTFs, or nitrous oxide…at the corporate level… (1) Total mass in metric tons of . . . each …fluorinated HTF exported in bulk.	CBI	
OO	98.416(d)(4) (new)	Each bulk exporter of fluorinated GHGs, fluorinated HTFs, or nitrous oxide…at the corporate level… (4)	CBI	

		Commodity code of the . . . fluorinated HTFs . . . shipped.		
OO	98.416(i) (new)	…quantities that are shipped to the facility by another facility for destruction and quantities that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore destroyed.	CBI	
OO	98.416(j) (new)	… the identities or concentrations of the fluorinated HTF or fluorinated GHG constituents of a fluorinated HTF product have changed, then the new or changed concentrations …	CBI	
Data Elements Proposed to be Assigned to the "Unit/Process Operating Characteristics" Supplier Data Category				
OO	98.416(b)(1) (new)	Any facility that destroys ... fluorinated HTFs shall submit: (1) Destruction efficiency (DE).	Not CBI	The proposed data elements, which apply to fluorinated HTFs, are the same type of data that must be reported for fluorinated GHGs, for which we have previously assigned a determination of not CBI. The EPA previously determined that the destruction efficiency of each fluorinated GHG destruction unit, the chemical identity of the fluorinated GHG(s) used in the performance test conducted to determine the destruction efficiency, and the name of all applicable federal and state regulations that may apply to the destruction process are not CBI. The proposed data elements do not reveal sensitive business information about the process, nor do they reveal the technology used for fluorinated GHG destruction, or the operating conditions for a particular technology.
OO	98.416(b)(4) (new)	Any facility that destroys ... fluorinated HTFs shall submit: (4) Chemical identity of the fluorinated GHG(s) used in the performance test conducted to determine DE.	Not CBI	
OO	98.416(b)(5) (new)	Any facility that destroys ... fluorinated HTFs shall submit: (5) Name of all applicable federal or state regulations that may apply to the destruction process.	Not CBI	
OO	98.416(c)(3) (new)	Each bulk importer of …fluorinated HTFs … at the corporate level… (3) Date on which the... fluorinated HTFs	CBI	These data elements describe the dates of import and export shipments, and the ports of entry or exit. The proposed data elements, which apply to fluorinated HTFs, are the same type

		… were imported.		of data that must be reported for fluorinated GHGs, for which we have previously assigned a determination of CBI. Release of these data elements to the public could allow competitors to link customs records on quantities and product composition with the import and export data reported under Part 98, thus allowing competitors to determine market share and devise marketing strategies to undermine or weaken a competitor's position. Because disclosure of these data elements is likely to cause harm, we have determined that these data elements qualify as CBI.
OO	98.416(c)(4) (new)	Each bulk importer of …fluorinated HTFs … at the corporate level… (4) Port of entry through which the … fluorinated HTFs … passed.	CBI	
OO	98.416(d)(5) (new)	Each bulk exporter of fluorinated GHGs, fluorinated HTFs… at the corporate level… (5) Date on which, and the port from which, the ...fluorinated HTFs ...were exported from the United States or its territories.	CBI	
OO	98.416(j) (new)	If…identities or concentrations of the fluorinated HTF or fluorinated GHG constituents of a fluorinated HTF product have changed, the date of the change …	Not CBI	The proposed data elements, which apply to fluorinated HTFs, are the same type of data that must be reported for fluorinated GHGs under 40 CFR 98.416(f), for which we have previously assigned a determination of not CBI. The date on which changes were made to the composition of a fluorinated HTF product does not disclose the actual composition of the product, the raw materials used to make the product, the method of manufacture, or the efficiency of the manufacturing process. Therefore, we are proposing that this data element is not CBI.

We are proposing to assign one revised data element in subpart Z (Phosphoric Acid Production) to the "Unit/Process 'Static' Characteristics that are Not Inputs to Emissions Equation Category" but are not making a confidentiality determination for this data element. The provision 40 CFR 98.266(f)(3) requires reporting the annual phosphoric acid production capacity (tons) for each wet-process phosphoric acid process line (metric tons). The EPA reviewed the available capacity information and determined that the situation may vary for individual facilities. While the production capacity data elements are generally publicly available through

construction and Title V permits, there may be facilities where these data are not public. Further, the information publicly available for facilities may not necessarily be the same as the data elements required under Part 98. For example, capacity data available in the Title V permit may be a plant-wide throughput capacity rather than the capacity of the individual process line reported under Part 98. For this reason, we have decided not to make a confidentiality determination for this revised data element, but instead determinations for this data element will be made on a case-by-case basis. This decision not to propose a determination for this data element is consistent with our treatment of other capacity data (*e.g.*, capacity of process lines or production units) (see 2011 Final CBI Rule).

We are also proposing to make an individual confidentiality determination for one data element in subpart FF without assigning it to a data category. While our general approach for making confidentiality determination is to assign each data element to a data category and apply the categorical confidentiality determination where one has been made, we are not doing so here for the following reason. The data element at issue is in provision 40 CR 98.326(u), which requires the annual coal production in short tons for the reporting year. The proposed data element shares characteristics with data elements previously assigned to the "Production/Throughput Data that are Not Inputs to Equations" data category, which the EPA has categorically determined to be CBI. However, unlike data elements assigned to that data category, the proposed data element is publicly available and therefore does not qualify as CBI. Coal production data are currently published quarterly and annually by MSHA and annually by the EIA[30]. We are therefore not assigning this proposed data element to the

[30] MSHA Mine Data Retrieval System (MDRS) (available at: http://www.msha.gov/drs/drshome.htm) and U.S. Department of Energy, Energy Information Administration Mine Level Data (available at: http://www.eia.gov/beta/coal/data/browser/#/topic/38?agg=1,0&rank=g&geo=g0000000000003ms&mntp=g&freq=A&start=2001&end=2012&ctype=linechart&ltype=pin&rtype=b&rse=0&pin=&maptype=0)

"Production/Throughput Data that are Not Inputs to Equations" data category. Because these data are already publically available, we are proposing a determination of "Not CBI."

D. Proposed Confidentiality Determinations for Other Part 98 Data Reporting Elements for which No Determination has been Previously Established

We are proposing categorical determinations for 22 data elements currently in subparts I, Z, MM, and RR for which no determination has been previously proposed or finalized under Part 98, as well as for three data elements that were proposed to be included in subpart PP in the finalized EGU NSPS. For subpart I, the affected data element was revised in final subpart I rule amendments on November 13, 2013 (78 FR 68162) following public comment. In this case, the EPA had not proposed a confidentiality determination for the revised data element and therefore did not finalize a determination in the final rule. For subpart Z, we are proposing to clarify the original determination for a data element in which it is unclear how to apply the final determination assigned in the 2011 Final CBI Rule. For subpart MM, we are proposing a determination for one data element where the EPA inadvertently failed to finalize a determination in the 2013 Revisions Rule. We are proposing confidentiality determinations for three data elements in subpart PP which were added to Part 98 in the EGU NSPS. Finally, we are proposing confidentiality determinations for 16 data elements in subpart RR. In the 2012 Final CBI Determinations Rule (77 FR 48072, August 13, 2012), we did not finalize a confidentiality determination for these data elements, which relate to facility-level and flow meter-level quantities of CO_2 received onsite, because the sensitivity of these data elements was dependent on whether the reporter conducted enhanced oil and gas recovery (ER) activities or non-ER activities. In this action, we are proposing to require that facilities report whether they are conducting ER activities. As such, the proposed amendments would allow the submitted reports

to indicate that the facility is conducting ER activities and therefore would allow for categorical confidentiality determinations for these data elements.

Of these data elements, we are proposing to assign one data element in subpart MM to the "Amount and Composition of Materials Received" supplier data category, which has a categorical confidentiality determination of CBI. We are proposing to assign the remaining data elements in subparts I, Z, PP, and RR to the "Unit/Process 'Operating' Characteristics that Are Not Inputs to Emission Equations" and "Unit/Process 'Static' Characteristics that Are Not Inputs to Emission Equations" direct emitter data categories and the "Production/Throughput Quantities and Composition" supplier data categories, and are proposing individual confidentiality determinations for these data elements. For 16 data elements in subpart RR, we are proposing separate determinations for each data element for facilities conducting ER operations and facilities conducting non-ER operations.

Table 8 of this preamble provides the category assignment and proposed rationale for the proposed determinations for the existing data elements in subparts I, Z, MM, PP, and RR.

Table 8. Proposed CBI Determinations for Other Data Elements in Part 98 (Subparts I, Z, MM, PP, and RR)

Subpart	Citation in 40 CFR part 98	Data element	Confidentiality Determination	Rationale for the proposed CBI determination
Data Elements Proposed to be Assigned to the "Unit/Process 'Static' Characteristics that Are Not Inputs to Emission Equations" Direct Emitter Data Category				
I	98.96(a)	Annual manufacturing capacity of each fab at your facility used to determine the annual manufacturing capacity of your facility in Equation I-5 of this subpart.	CBI	The EPA revised this data element in the final rule published on November 13, 2013 (78 FR 68162), to apply at the fab level instead of at the facility level to be consistent with other revised data reporting requirements, but did not make a proposed or final confidentiality determination for the revised data element in the final rule. The EPA is now proposing to revise the confidentiality determination for this data element, and to consider it as CBI. This data element describes the annual product production capacity of individual fabs, and could

				cause competitive harm if released. Specifically, this data element could provide insight into facility operating practices that are considered sensitive by the reporter and could provide a competitor with a competitive advantage over other facilities. Additional information provided by industry indicates that this data element is closely guarded and protected by nearly all industry members as sensitive business information.
Z	98.266(a)	Origin of the phosphate rock	CBI	In the "Final Data Category Assignments and Confidentiality Determinations for Part 98 Reporting Elements" memorandum issued April 29, 2011, we categorized the subpart Z data element "Annual phosphoric acid production by origin of the phosphate rock" at 40 CFR 98.266(a) to be production/throughput data that are not inputs to emission equations, and therefore considered to be confidential business information. To clarify this determination, we are proposing to specify that both the annual phosphoric acid production and the origin of the phosphate rock are both considered to be confidential business information. This data element describes operating parameters related to the operating processes at the facility and is assigned to the "Unit/Process 'Operating' Characteristics That are Not Inputs to Emission Equations" data category. We are proposing that this data element is CBI because the data element could reveal information on the source and composition of raw materials used in the manufacturing processes, which could provide insight into the facility's raw material suppliers, production costs and manufacturing processes.
Data Elements Proposed to be Assigned to the "Unit/Process 'Operating' Characteristics that Are Not Inputs to Emission Equations" Direct Emitter Data Category				
I	98.96(q)(2)	For all abatement systems through which fluorinated GHGs or N_2O flow at your facility, for which you are reporting controlled emissions, the	Not CBI	In the final rule amendments published on November 13, 2013 (78 FR 68162), the EPA revised 40 CFR 98.96(q) into four paragraphs and added paragraphs (q)(2) to (q)(4) to address comments received on the proposal related to abatement

		following: (2) If you use default destruction or removal efficiency values in your emissions calculations under §98.93(a), (b), or (i), certification that the site maintenance plan for abatement systems for which emissions are being reported contains manufacturer's recommendations and specifications for installation, operation, and maintenance for each abatement system.		systems. However, because the EPA proposed no confidentiality determination for these three new paragraphs, the EPA made no final CBI determination. These data elements are similar to data element 40 CFR 98.96(q)(1). For 40 CFR 98.96(q)(1), the EPA made a final determination that this data element should be in the category for "Unit/Process 'Operating' Characteristics That are Not Inputs to Emission Equations" and that that this data element was not CBI. Similar to 40 CFR 98.96(q)(1), paragraphs (q)(2) to (q)(4) are certification statements that do not provide detailed information on sensitive business information of a competitive nature. Moreover, the EPA certification statements are the same language in 40 CFR 98.96(q)(2) through (4) and do not include any facility- or process-specific information that could be considered exclusive. Therefore, the EPA is proposing that these three data elements should also be assigned to the category for "Unit/Process 'Operating' Characteristics That are Not Inputs to Emission Equations," and the EPA is proposing that these three data elements also be classified as "not CBI."
I	98.96(q)(3)	For all abatement systems through which fluorinated GHGs or N_2O flow at your facility, for which you are reporting controlled emissions, the following: (3) If you use default destruction or removal efficiency values in your emissions calculations under §98.93(a), (b), and/or (i), certification that the abatement systems for which emissions are being reported were specifically designed for fluorinated GHG or N_2O abatement, as applicable. You must support this certification by providing abatement system supplier documentation stating that the system was designed for fluorinated GHG or N_2O abatement, as applicable.	Not CBI	
I	98.96(q)(4)	For all abatement systems through which fluorinated GHGs or N_2O flow at your facility, for which you are reporting controlled	Not CBI	

		emissions, the following: (4) For all stack systems for which you calculate fluorinated GHG emissions according to the procedures specified in §98.93(i)(3), certification that you have included and accounted for all abatement systems and any respective downtime in your emissions calculations under §98.93(i)(3).		
Data Elements Proposed to be Assigned to the "Amount and Composition of Materials Received" Supplier Data Category				
MM	98.396(a)(20)	For all crude oil that enters the refinery, report the annual quantity in barrels.	CBI	In rule amendments published on November 29, 2013 (78 FR 71904), we revised this data element from "the batch volume of crude oil that enters the refinery in barrels" to "the annual quantity of crude oil that enters the refinery in barrels." However, we did not make a confidentiality determination for this revised data element at that time. We are proposing that the revised data element be assigned to the "Amount and Composition of Materials Received" category, which has a categorical confidentiality determination of CBI.
Data Elements Proposed to be Assigned to the "Production/Throughput Quantities and Composition" Supplier Data Category				
PP	98.426(h)(1)	If you capture a CO_2 stream from an electricity generating unit that is subject to subpart D of this part and transfer CO_2 to any facilities that are subject to subpart RR of this part, you must report the facility identification number associated with the annual GHG report for the subpart D facility.	Not CBI	This data element identifies subpart D facilities that transfer CO_2 to any facilities that are subject to subpart RR of this part. This information does not reveal any significant details regarding production or production and import/export data that may be considered CBI. Therefore, we are proposing that this data element is not CBI.
PP	98.426(h)(2)	If you capture a CO_2 stream from an electricity generating unit that is subject to subpart D of this part	Not CBI	This data element identifies subpart RR facilities to which CO_2 streams are transferred from subpart PP. This information does not reveal any significant details regarding

		and transfer CO_2 to any facilities that are subject to subpart RR of this part, you must report each facility identification number associated with the annual GHG reports for each subpart RR facility to which CO_2 is transferred.		production or production and import/export data that may be considered CBI. Therefore, we are proposing that this data element is not CBI.
PP	98.426(h)(3)	If you capture a CO_2 stream from an electricity generating unit that is subject to subpart D of this part and transfer CO_2 to any facilities that are subject to subpart RR of this part, you must report the annual quantity of CO_2 in metric tons that is transferred to each subpart RR facility.	Not CBI	This data element describes the quantity of CO2 that is captured at an electric generating unit that is subject to subpart D and transferred to subpart RR facilities. This information does not reveal any significant details regarding production or production and import/export data that may be considered CBI. Therefore, we are proposing that this data element is not CBI.
RR	98.446(a)(1)	For enhanced oil and gas recovery (ER) Activities: If you receive CO_2 by pipeline, report the following for each receiving flow meter: Total net mass of CO_2 received (metric tons) annually.	CBI	We are proposing that these data elements are CBI when reported by facilities conducting enhanced oil or natural gas recovery, on the basis that they are not publicly available and cannot be derived from publicly available data. Further, the EPA has previously determined for subpart UU that the quantities of CO_2 reported as received by specific ER facilities could enable CO_2 suppliers and pipeline transportation companies to use the information to their advantage in price negotiations on future contracts with the CO_2 purchasers, which would lead to an economic disadvantage for these facilities.
RR	98.446(a)(2)(i)	For ER Activities: If a volumetric flow meter is used to receive CO_2 report the following unless you reported yes to §98.446(a)(4): Volumetric flow through a receiving flow meter at standard conditions (in standard cubic meters) in each quarter.	CBI	
RR	98.446(a)(2)(ii)	For ER Activities: If a volumetric flow meter is used to receive CO_2 report the following unless you reported yes to §98.446(a)(4): The volumetric flow through a receiving	CBI	

		flow meter that is redelivered to another facility without being injected into your well (in standard cubic meters) in each quarter.		
RR	98.446(a)(2)(iii)	For ER Activities: If a volumetric flow meter is used to receive CO_2 report the following unless you reported yes to §98.446(a)(4): CO_2 concentration in the flow (volume percent CO_2 expressed as a decimal fraction) in each quarter.	CBI	
RR	98.446(a)(3)(i)	For ER Activities: If a mass flow meter is used to receive CO_2 report the following unless you reported yes to §98.446(a)(4): The mass flow through a receiving flow meter (in metric tons) in each quarter.	CBI	
RR	98.446(a)(3)(ii)	For ER Activities: If a mass flow meter is used to receive CO_2 report the following unless you reported yes to § 98.446(a)(4): The mass flow through a receiving flow meter that is redelivered to another facility without being injected into your well (in metric tons) in each quarter.	CBI	
RR	98.446(a)(3)(iii)	For ER Activities: If a mass flow meter is used to receive CO_2 report the following unless you reported yes to §98.446(a)(4): The CO_2 concentration in the flow (weight percent CO_2 expressed as a decimal fraction) in each quarter.	CBI	
RR	98.446(b)(1)	For ER Activities: If you receive CO_2 in containers, report: The mass (in metric tons) or volume at standard	CBI	

		conditions (in standard cubic meters) of contents in containers in each quarter.		
RR	98.446(b)(2)	For ER Activities: If you receive CO_2 in containers: Concentration of CO_2 of contents in containers (volume or wt. % CO_2 expressed as a decimal fraction) in each quarter.	CBI	
RR	98.446(b)(3)	For ER Activities: If you receive CO_2 in containers, report: The mass (in metric tons) or volume (in standard cubic meters) of contents in containers that is redelivered to another facility without being injected into your well in each quarter.	CBI	
RR	98.446(b)(4)	For ER Activities: If you receive CO_2 in containers: Net mass of CO_2 received (metric tons) annually.	CBI	
RR	98.446(c)	For ER Activities: If you use more than one receiving flow meter: Total net mass of CO_2 received (metric tons) through all flow meters annually.	CBI	
RR	98.446(f)(4)(i)	For ER Activities: If the date specified in §98.446(e) is during the reporting year for this annual report, report the following starting on the date specified in §98.446(e): For each separator flow meter (mass or volumetric), report CO_2 mass produced (metric tons) annually.	CBI	We are proposing that these data elements, which are related to the quantity of produced CO_2 measured at a separator meter, are CBI when reported by facilities performing enhanced oil and gas recovery. Previously, commenters have noted[31] that although some data from ER wells is publicly available, the total mass of produced CO_2 by well or within a field is not already in the public domain. Publication of produced CO_2 data, when coupled with publicly available information on oil and gas production by well, could enable competitors to calculate CO_2 utilization rates for both
RR	98.446(f)(4)(ii)	For ER Activities: If the date specified in §98.446(e) is during the reporting year for this	CBI	

[31] 77 FR 48083, August 13, 2012.

		annual report, report the following starting on the date specified in §98.446(e): For each separator flow meter (mass or volumetric), report CO_2 concentration in flow (volume or wt. % CO_2 expressed as a decimal fraction) in each quarter.		individual wells and fields and possibly track changes in CO_2 utilization over time. This data could be used to gain insight into production costs and reservoir performance, which could result in competitive harm.
RR	98.446(f)(4)(iii)	For ER Activities: If the date specified in §98.446(e) is during the reporting year for this annual report, report the following starting on the date specified in §98.446(e): If a volumetric flow meter is used, volumetric flow rate at standard conditions (standard cubic meters) in each quarter.	CBI	
RR	98.446(f)(4)(iv)	For ER Activities: If the date specified in §98.446(e) is during the reporting year for this annual report, report the following starting on the date specified in §98.446(e): If a mass flow meter is used, mass flow rate (metric tons) in each quarter.	CBI	
RR	98.446(a)(1)	For Non-ER Activities: If you receive CO_2 by pipeline, report the following for each receiving flow meter: Total net mass of CO_2 received (metric tons) annually.	Not CBI	For non-ER facilities, we are proposing that these data elements are not eligible for CBI treatment because these data elements are publicly available or can be derived from publicly available data. These data can be derived from Underground Injection Control (UIC) permits, which are issued for each injection well by the EPA or by states that have assumed primary enforcement authority for permitting Class II injection wells. Unlike ER facilities, the CO_2 received at non-ER facilities is not recycled and re-injected. The amount of CO_2 received at non-ER facilities is equivalent to the amount of CO_2 injected (which is reported per UIC
RR	98.446(a)(2)(i)	For Non-ER Activities: If a volumetric flow meter is used to receive CO_2 report the following unless you reported yes to §98.446(a)(4): Volumetric flow through a receiving flow meter at standard conditions (in standard	Not CBI	

		cubic meters) in each quarter.		permit conditions). Information related to the permits is reported to EPA or States at least annually and made available to the public upon request. Because this information is publicly available, the EPA finds that disclosure of these data elements is not likely to cause substantial competitive harm to reporters who conduct non-ER activities. The EPA proposes to determine that these data elements are not CBI.
RR	98.446(a)(2)(ii)	For Non-ER Activities: If a volumetric flow meter is used to receive CO_2 report the following unless you reported yes to §98.446(a)(4): The volumetric flow through a receiving flow meter that is redelivered to another facility without being injected into your well (in standard cubic meters) in each quarter.	Not CBI	
RR	98.446(a)(2)(iii)	For Non-ER Activities: If a volumetric flow meter is used to receive CO_2 report the following unless you reported yes to § 98.446(a)(4): CO_2 concentration in the flow (volume percent CO_2 expressed as a decimal fraction) in each quarter.	Not CBI	
RR	98.446(a)(3)(i)	For Non-ER Activities: If a mass flow meter is used to receive CO_2 report the following unless you reported yes to §98.446(a)(4): The mass flow through a receiving flow meter (in metric tons) in each quarter.	Not CBI	
RR	98.446(a)(3)(ii)	For Non-ER Activities: If a mass flow meter is used to receive CO_2 report the following unless you reported yes to §98.446(a)(4): The mass flow through a receiving flow meter that is redelivered to another facility without being injected into your well (in metric tons) in each quarter.	Not CBI	
RR	98.446(a)(3)(iii)	For Non-ER Activities: If a mass flow meter is used to receive CO_2	Not CBI	

		report the following unless you reported yes to §98.446(a)(4): The CO_2 concentration in the flow (weight percent CO_2 expressed as a decimal fraction) in each quarter.		
RR	98.446(b)(1)	For Non-ER Activities: If you receive CO_2 in containers, report: The mass (in metric tons) or volume at standard conditions (in standard cubic meters) of contents in containers in each quarter.	Not CBI	
RR	98.446(b)(2)	For Non-ER Activities: If you receive CO_2 in containers: Concentration of CO_2 of contents in containers (volume or wt. % CO_2 expressed as a decimal fraction) in each quarter.	Not CBI	
RR	98.446(b)(3)	For Non-ER Activities: If you receive CO_2 in containers, report: The mass (in metric tons) or volume (in standard cubic meters) of contents in containers that is redelivered to another facility without being injected into your well in each quarter.	Not CBI	
RR	98.446(b)(4)	For Non-ER Activities: If you receive CO_2 in containers: Net mass of CO_2 received (metric tons) annually.	Not CBI	
RR	98.446(c)	For Non-ER Activities: If you use more than one receiving flow meter: Total net mass of CO_2 received (metric tons) through all flow meters annually.	Not CBI	
RR	98.446(f)(4)(i)	For Non-ER Activities: If the date specified in §98.446(e) is during the reporting year for this annual report, report the following starting on the date specified in	Not CBI	For non-ER facilities, we are proposing that these data elements are not eligible for CBI treatment because these data elements are publicly available or can be derived from publicly available data. These data can be derived from UIC

		§98.446(e): For each separator flow meter (mass or volumetric), report CO_2 mass produced (metric tons) annually.		permits, which are issued for each injection well by the EPA or by states that have assumed primary enforcement authority for permitting Class II injection wells. Unlike ER facilities, the CO_2 received at non-ER facilities is not recycled and re-injected. The amount of CO_2 received at non-ER facilities is equivalent to the amount of CO_2 injected (which is reported per UIC permit conditions). Information related to the permits is reported to EPA or States at least annually and made available to the public upon request. Because this information is publicly available, the EPA finds that disclosure of these data elements is not likely to cause substantial competitive harm to reporters who conduct non-ER activities. The EPA proposes to determine that these data elements are not CBI.
RR	98.446(f)(4)(ii)	<u>For Non-ER Activities:</u> If the date specified in §98.446(e) is during the reporting year for this annual report, report the following starting on the date specified in §98.446(e): For each separator flow meter (mass or volumetric), report CO_2 concentration in flow (volume or wt. % CO_2 expressed as a decimal fraction) in each quarter.	Not CBI	
RR	98.446(f)(4)(iii)	<u>For Non-ER Activities:</u> If the date specified in §98.446(e) is during the reporting year for this annual report, report the following starting on the date specified in §98.446(e): If a volumetric flow meter is used, volumetric flow rate at standard conditions (standard cubic meters) in each quarter.	Not CBI	
RR	98.446(f)(4)(iv)	<u>For Non-ER Activities:</u> If the date specified in §98.446(e) is during the reporting year for this annual report, report the following starting on the date specified in §98.446(e): If a mass flow meter is used, mass flow rate (metric tons) in each quarter.	Not CBI	

E. Proposed Revised Confidentiality Determination for Subpart NN Data Elements

We are proposing revised confidentiality determinations for two existing data elements in subpart NN. Under subpart NN, local distribution companies report the volume of natural gas

withdrawn from on-system storage and the annual volume of liquefied natural gas (LNG) withdrawn from storage and vaporized for delivery on the distribution system (40 CFR 98.406(b)(3)). The EPA previously assigned these data elements to the "Amount and Composition of Materials Received" category, which has a confidentiality determination of CBI. The EPA is proposing to change these data elements' status from CBI to non-CBI. These data elements are reported to the EPA by LDCs subject to subpart W of Part 98 (Petroleum and Natural Gas Systems) in addition to subpart NN. In support of a recent subpart W rulemaking (79 FR 70352, November 25, 2014), review of publicly available data found that gas withdrawals from underground storage are reported to the EIA on form EIA–176 (Annual Report of Natural and Supplemental Gas Supply and Disposition). As we noted in the proposed version of that rule, the EIA considers all information submitted on EIA–176 to be non-proprietary information and publishes the quantity of natural gas withdrawn from storage on their website. Data that are already in the public domain are not entitled to confidential treatment under the provisions in 40 CFR 2.208. Since the quantity of natural gas withdrawn from storage is publicly available, the EPA proposes to assign the confidentiality determination for 40 CFR 98.406(b)(3) to "not CBI."

F. Request for Comments on Proposed Category Assignments and Confidentiality Determinations

For the CBI component of this rulemaking, we are soliciting comment on the following specific issues. We specifically seek comment on the proposed data category assignment for each of the new and substantially revised data elements in the proposed amendments, for the existing data elements in subparts I, Z, MM, PP, and RR for which no determination was previously

made, and the two data elements in subpart NN for which we are revising the prior confidentiality determination.

If you believe that the EPA has improperly assigned certain new, substantially revised, or existing data elements in these subparts to any of the data categories established in the 2011 Final CBI Rule, please provide specific comments identifying which of the data elements may be wrongly assigned along with a detailed explanation of why you believe them to be incorrectly assigned and in which data category you believe they belong. In addition, if you believe that a data element should be assigned to one of the five categories that do not have a categorical confidentiality determination, please also provide specific comment along with detailed rationale and supporting information on whether such data element does or does not qualify as CBI. We also seek comment on the proposed confidentiality status of the new, substantially revised, or existing data elements in the direct emitter data categories "Unit/Process 'Operating' Characteristics that Are Not Inputs to Emission Equations" and "Unit/Process 'Static' Characteristics that Are Not Inputs to Emission Equations" and the supplier data categories "Production/Throughput Quantities and Composition" and "Unit/Process Operating Characteristics."

By proposing confidentiality determinations prior to data reporting through this proposal and rulemaking process, we provide potential reporters an opportunity to submit comments, particularly comments identifying data they consider sensitive and their rationales and supporting documentation. This opportunity to submit comments is the same opportunity that is afforded to submitters of information in case-by-case confidentiality determinations. In addition, it provides an opportunity to rebut the agency's proposed determinations prior to finalization. We will evaluate the comments on our proposed determinations, including claims of confidentiality

and information substantiating such claims, before finalizing the confidentiality determinations. Please note that this will be reporters' only opportunity to substantiate a confidentiality claim. Upon finalizing the confidentiality determinations of the data elements identified in this rule, the EPA will release or withhold these data in accordance with 40 CFR 2.301, which contains special provisions governing the treatment of Part 98 data for which confidentiality determinations have been made through rulemaking.

When submitting comments regarding the confidentiality determinations we are proposing in this action, please identify each individual proposed new, revised, or existing data element you do or do not consider to be CBI or emission data in your comments. Please explain specifically how the public release of that particular data element would or would not cause a competitive disadvantage to a facility. Discuss how this data element may be different from or similar to data that are already publicly available. Please submit information identifying any publicly available sources of information containing the specific data elements in question. Data that are already available through other sources would likely be found not to qualify for CBI protection. In your comments, please identify the manner and location in which each specific data element you identify is publicly available, including a citation. If the data are physically published, such as in a book, industry trade publication, or federal agency publication, provide the title, volume number (if applicable), author(s), publisher, publication date, and International Standard Book Number (ISBN) or other identifier. For data published on a website, provide the address of the website, the date you last visited the website and identify the website publisher and content author.

If your concern is that competitors could use a particular data element to discern sensitive information, specifically describe the pathway by which this could occur and explain how the

discerned information would negatively affect your competitive position. Describe any unique process or aspect of your facility that would be revealed if the particular proposed new or revised data element you consider sensitive were made publicly available. If the data element you identify would cause harm only when used in combination with other publicly available data, then describe the other data, identify the public source(s) of these data, and explain how the combination of data could be used to cause competitive harm. Describe the measures currently taken to keep the data confidential. Avoid conclusory and unsubstantiated statements, or general assertions regarding potential harm. Please be as specific as possible and include all information necessary for the EPA to evaluate your comments.

V. Impacts of the Proposed Amendments

The EPA is proposing amendments to Part 98 that would streamline and improve implementation of the rule, improve the quality and consistency of the data collected under the rule, and clarify certain provisions. The proposed revisions are anticipated to increase burden in cases where the proposed amendments would expand current applicability, monitoring, or reporting, and are anticipated to decrease burden in cases where the proposed amendments would streamline Part 98 to remove notification or reporting requirements or simplify the data that must be reported. For most subparts, we are proposing both revisions that would result in an increase in burden and revisions that would result in a decrease in burden. In several cases, we are proposing changes where we anticipate a decrease in burden, but are unable to quantify this decrease. This conservative approach means that the impacts for this proposed rule generally reflect an increase in burden for most subparts. For example, as discussed in section II.C and II.K of this preamble, we are proposing amendments to add new reporting requirements to subpart E and subpart V to improve the quality of the data collected under the rule, as well as amendments

that would streamline the rule by conditionally removing the annual approval request for an alternative method for determining N_2O emissions currently required by reporters and the annual request approval by the EPA. The proposed changes for the annual approval request are anticipated to add flexibility for reporters and reduce the burden for subpart E and subpart V reporters using the alternative method. Additionally, we anticipate that the EPA burden required to review and approve the alternative methods would also be reduced. However, because the proposed changes would apply to an optional calculation method and are not required for compliance with Part 98, we have not included this reduction in burden in our analysis, and have only quantified the increase in burden associated with the proposed new reporting requirements.

As discussed in section I.E of this preamble, we are proposing to implement these changes over reporting years 2016, 2017, and 2018 in order to stagger the implementation of these changes over time and provide time for needed software revisions. The burden has subsequently been determined based on when the proposed revisions would be implemented in each year (*e.g.*, the burden for RY2016 only reflects changes to subparts I (Electronics Manufacturing) and HH (Municipal Solid Waste Landfills), and related changes to subpart A (General Provisions)). One-time implementation costs would apply for certain revisions to applicability and monitoring provisions that would be finalized in RY2017 and RY2018; therefore, we have estimated costs through RY2019 to reflect the subsequent year costs incurred by industry. The incremental implementation costs for all subparts for each reporting year are summarized in Table 9 of this preamble. The estimated incremental burden is $2,049,478 for all proposed revisions implemented between RY2016 through RY2018, including $9,359 from revisions implemented in RY2016, $33,782 from revisions implemented in RY2017, and $2,006,337 from revisions implemented in RY2018. The estimated annual burden is $1,081,830

per year following implementation of all changes. The incremental burden by subpart is shown in Table 10 of this preamble. One-time implementation costs are incorporated into first year costs, while subsequent year costs represent the annual burden that will be incurred in total by all impacted reporters.

Table 9. Incremental Burden for Reporting Years 2016-2019 ($/year)

Cost Summary	2016	2017	2018	2019
First Year Costs	$9,359[a]	$25,650	$1,972,555[b,c]	--
Subsequent Year Annual Costs for Changes Implemented in:				
2016	--	$8,132	$8,132	$9,359[a]
2017	--	--	$25,650	$25,650
2018	--	--	--	$1,046,821
Total Costs by Year (all subparts)	$9,359	$33,782	$2,006,337	$1,081,830[a]

[a] Includes annual labor costs of $1,226 for reporting additional data elements for subpart I for a triennial report submitted once every three years.

[b] Includes one-time implementation costs for new monitoring under subpart FF.

[c] Includes one-time implementation costs for new reporters under subparts V and OO.

Table 10. Incremental Burden by Subpart ($2011)

Subpart	Costs for Additional Reporters		Costs for Revisions to Reporting		Costs For Revisions to Monitoring Provisions		Total Cost	
	First-Year	Subsequent-Year	First-Year	Subsequent-Year	First-Year	Subsequent-Year	First-Year	Subsequent-Year
Changes Implemented in RY2016								
I	$0	$0	$1,226	$0[a]	$0	$0	$1,226	$0[a]
HH	$0	$0	$8,132	$8,132	$0	$0	$8,132	$8,132
Total Costs for Changes Implemented in RY2016							$9,359	$8,132
Changes Implemented in RY2017								
A	$0	$0	$4,906	$4,906	$0	$0	$4,906	$4,906
C	$0	$0	$12,139	$12,139	$0	$0	$12,139	$12,139
E	$0	$0	$10	$10	$0	$0	$10	$10
F	$0	$0	$73	$73	$0	$0	$73	$73
G	$0	$0	$228	$228	$0	$0	$228	$228
N[b]	$0	$0	$0	$0	$0	$0	$0	$0
O	$0	$0	$106	$106	$0	$0	$106	$106
P[b]	$0	$0	$0	$0	$0	$0	$0	$0
Q[b]	$0	$0	$0	$0	$0	$0	$0	$0
S	$0	$0	$744	$744	$0	$0	$744	$744
U[b]	$0	$0	$0	$0	$0	$0	$0	$0
X	$0	$0	$1,074	$1,074	$0	$0	$1,074	$1,074
Z	$0	$0	$40	$40	$0	$0	$40	$40

Table 10. Incremental Burden by Subpart ($2011)

Subpart	Costs for Additional Reporters		Costs for Revisions to Reporting		Costs For Revisions to Monitoring Provisions		Total Cost	
	First-Year	Subsequent-Year	First-Year	Subsequent-Year	First-Year	Subsequent-Year	First-Year	Subsequent-Year
AA[b]	$0	$0	$0	$0	$0	$0	$0	$0
CC	$0	$0	$33	$33	$0	$0	$33	$33
DD	$0	$0	$2,000	$2,000	$0	$0	$2,000	$2,000
II	$0	$0	$2,562	$2,562	$0	$0	$2,562	$2,562
LL[c]	$0	$0	-$17	-$17	$0	$0	-$17	-$17
MM[b]	$0	$0	$0	$0	$0	$0	$0	$0
NN	$0	$0	$1,752	$1,752	$0	$0	$1,752	$1,752
PP[b]	$0	$0	$0	$0	$0	$0	$0	$0
RR[d]	$0	$0	$0	$0	$0	$0	$0	$0
TT[b]	$0	$0	$0	$0	$0	$0	$0	$0
UU[b]	$0	$0	$0	$0	$0	$0	$0	$0
Total Costs for Changes Implemented in RY2017							$25,650	$25,650
Changes Implemented in RY2018								
V	$83,544	$66,403	$129	$129	$0	$0	$83,673	$66,531
Y	$0	$0	$1,448	$1,448	$0	$0	$1,448	$1,448
FF	$0	$0	$2,066	$2,066	$1,848,571	$949,582	$1,850,638	$951,648
OO	$36,215	$26,612	$582	$582	$0	$0	$36,797	$27,194
Total Costs for Changes Implemented in RY2018							$1,972,555	$1,046,821
Total (All Subparts)	$119,759	$93,015	$39,234	$38,007	$1,848,571	$949,582	$2,006,337	$1,081,830

[a] Costs for subpart I include new data elements related to the triennial technology report required by §98.96(y). The first report must be submitted with RY2016 reports on March 31, 2017 and every three years thereafter. For the purposes of estimating burden, the annual costs associated with the data elements were included in the total incremental estimates for RY2016 and RY2019 (see Table 9 of this preamble) and not for RY2017 or RY2018.

[b] The proposed changes to this subpart include only minor revisions, clarifications, and corrections that have no impact on the burden to reporters.

[c] This entry is a negative value because certain reporting requirements were removed from subpart LL and no new reporting requirements were added for the subpart, resulting in a net cost savings for this source category.

[d] There is no increase in costs under subpart RR (Geologic Sequestration of Carbon Dioxide) because there are no facilities currently reporting, or projected to report, under this source category in the next three years.

A full discussion of the impacts may be found in the memorandum, "Assessment of Burden Impacts of 2015 Revisions to the Greenhouse Gas Reporting Rule," available in Docket Id. No. EPA-HQ-OAR-2015-0526.

A. How was the incremental burden of the proposed rule estimated?

The estimated incremental change in burden from the proposed amendments to Part 98 include burden associated with: 1) changes to the reporting requirements by adding, revising, or removing existing reporting requirements (21 subparts); 2) revisions to the applicability of

subparts such that additional facilities would be required to report under Part 98 (subparts V and OO); and 3) additional monitoring requirements (subpart FF).

1. Burden Associated with the Revision of Reporting Requirements

Section III of this preamble describes proposed amendments to each subpart of Part 98 that improve the quality and accuracy of the data collected under the GHGRP, improve verification of collected data, and provide additional data to help improve estimates included in the U.S. GHG Inventory. In general, these proposed amendments would add reporting requirements or revise existing reporting requirements to collect more detailed facility data. The proposed amendments would collectively add or revise data elements in 21 subparts of Part 98, including 97 data elements that were not previously required to be collected. With the exception of revisions to subpart FF (Underground Coal Mines), the collection of these new and revised data elements would not add new monitoring requirements, and would not substantially affect the type of information that must be collected. For all of these additional data elements, the EPA has estimated a nominal additional cost to report the data element and fulfill the recordkeeping requirements. The EPA is also proposing to remove 18 data elements in subparts O, Y, DD, HH, and LL. For these data elements, the EPA has estimated a nominal reduction in cost, since reporters would no longer be required to report the data element. The total incremental costs from the addition, revision, and removal of these reporting requirements are anticipated at $39,234 annually ($2011). This includes $9,359 from revisions implemented in RY2016, $25,650 from revisions first implemented in RY2017, and $4,225 from revisions first implemented in RY2018. For subpart I, the new data elements in the proposed rule pertain to the triennial technology report required under 40 CFR 98.96(y), which must first be submitted with RY2016 reports on or before March 31, 2017 and every three years thereafter. For the purposes

of estimating burden, the annual costs associated with these data elements ($1,226) would apply in RY2016 only. For RY2017 and RY2018, the estimated incremental cost associated with reporting the new, revised, and removed data elements for all affected source categories is $33,782 and $38,007, respectively.

All costs to the regulated industry resulting from changes to the reporting requirements for the GHGRP are labor costs (*i.e.*, the cost of labor by facility staff to meet the rule's information collection requirements). For each subpart, the EPA determined the incremental change in annual hourly labor estimates by multiplying the number of data elements that were added, revised, or removed in each subpart by the number of hours required to review each data element and the number of affected reporters for each subpart. Where data elements were removed in subparts O, Y, DD, HH, and LL, a reduction in the annual hourly labor estimate was assumed. Labor costs were applied to the total annual hour estimates for each labor category to obtain the total costs for each subpart.

2. Burden Associated with Revisions that Affect Applicability

The EPA is proposing revisions that would affect the applicability of two subparts of Part 98: subpart V (Nitric Acid Production) and subpart OO (Suppliers of Industrial Greenhouse Gases). The proposed changes would apply beginning in RY2018. These proposed changes are anticipated to require reporting for four additional reporters under subpart V, and five to ten additional reporters under subpart OO. (For the purposes of estimating burden, an average of eight additional reporters were assumed to be required to report under subpart OO of Part 98). The majority of facilities within these industries already report under Part 98; specifically, all four of the affected reporters under subpart V already submit annual reports. The total incremental burden from changes to applicability is $119,759 in the first year and $93,015 in

subsequent years ($2011). The incremental burden for the additional reporters for subpart V includes first-year costs of $83,544 ($20,866 per facility) and subsequent year costs of $66,403 ($16,601 per facility). The incremental burden for the additional reporters for subpart OO includes first-year costs of $36,215 ($4,527 per facility) and subsequent year costs of $26,612 ($3,327 per facility).

To estimate the cost impacts for additional reporters, the recent information collection request for the GHG reporting program[32] was used to obtain the first year average cost per facility that is incurred from reporting under subparts V and OO (updated to $2011) and the subsequent year burden. These average costs per facility include labor costs, capital costs, and operation and maintenance costs. We determined total reporting costs for each subpart by assigning these costs to model facilities that are representative of each industry sector. The total cost for each subpart was determined by multiplying the model facilities cost by the number of affected facilities.

3. Burden Associated with Revisions to Monitoring Requirements for Underground Coal Mines

As discussed in section III.R.2 of this preamble, we are proposing changes to the monitoring requirements of subpart FF of Part 98 to remove the option to allow MSHA quarterly inspection reports to be used as a source of data for monitoring methane liberated from ventilation systems. Instead, facilities would be required to independently collect their own grab samples or to use CEMS. The incremental increase in costs for subpart FF reporters who would no longer have the option to use MSHA data (and would need to collect monthly grab samples) are $28,440 per facility in the first year and $14,609 per facility in subsequent years ($2011); these revisions would affect approximately 65 reporters anticipated to use MSHA data annually.

[32] See Supporting Statement Part A: Information Collection Request for the Greenhouse Gas Reporting Program (U.S. EPA, 2013).

The proposed revisions would have an industry-wide incremental cost of $1,848,571 in the first year and $949,582 in subsequent years. The proposed changes would apply beginning in RY2018.

The incremental costs to the regulated industry resulting from changes to the monitoring requirements for Underground Coal Mines are based on the collection of independent grab samples in ventilation air. Currently, about 50 percent of subpart FF reporters collect quarterly gas samples. For mines that currently use MSHA data, the annual incremental costs for taking grab samples was estimated as the cost of taking the samples, less the avoided cost of obtaining, interpreting and reporting MSHA data. We assumed that facilities would not install a CEMS as a result of the monitoring changes.

The costs resulting from removing the use of MSHA quarterly data and requiring facilities to collect quarterly grab samples include additional labor costs (*i.e.*, the cost of labor by facility staff to meet the rule's information collection requirements), capital costs (*e.g.*, the costs of anemometers or sample kits, for reporters that are not currently conducting sampling), and operating and maintenance costs (*e.g.*, the cost associated with gas sample analysis). Hourly labor costs were estimated based on the number of labor hours for developing the sampling methodology and purchasing the devices, and the number of hours required for sampling.

B. Additional Impacts of the Proposed Revisions to Part 98

In addition to amendments that would revise the existing applicability, monitoring, or reporting requirements of Part 98, the EPA is proposing additional technical revisions and other clarifications to several subparts in Part 98 that are not anticipated to have a significant impact on burden. These include revisions discussed in section III of this preamble that are intended to streamline the rule requirements, including proposed revisions to clarify and revise the

requirements of Part 98 in order to focus GHGRP and reporter resources on relevant data, to expand and clarify the conditions under which a facility can cease reporting, or to clarify requirements for facilities that report very little or no emissions, and revisions that would improve the efficiency of the reporting and verification process. These changes are anticipated to minimally reduce burden for reporters.

The EPA is also proposing revisions that are intended to improve the quality of the rule but that would not impact burden, such as amending calculation methods to improve the accuracy of the emissions estimate (*e.g.*, subparts I and Y); these proposed amendments would increase the accuracy of reported emissions, but do not require additional monitoring or data collection by reporters, and would have no additional impact on burden.

We are proposing, for certain subparts, to amend monitoring or measurement methods to more closely align rule requirements with different operating scenarios in the industry. Other proposed amendments would provide flexibility for reporters and clarify reporting requirements, as described in section II.C of this preamble. These proposed amendments are anticipated to have no impact or minimally decrease burden for reporters.

The proposed revisions also include minor amendments, corrections, and clarifications, including simple revisions of requirements such as clarifying changes to definitions, calculation methodologies, monitoring and quality assurance requirements, missing data procedures, and reporting requirements. These proposed changes clarify Part 98 to better reflect the EPA's intent, and would not present any additional burden on reporters.

A full discussion of the burden associated with the proposed revisions for each subpart may be found in the memorandum, "Assessment of Burden Impacts of 2015 Revisions to the Greenhouse Gas Reporting Rule," available in Docket Id. No. EPA-HQ-OAR-2015-0526.

VI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is a significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review because the proposed amendments raise novel legal or policy issues. Any changes made in response to OMB recommendations have been documented in the docket. The EPA prepared an economic analysis of the potential costs and benefits associated with this action. A copy of the analysis is available in Docket Id. No. EPA–HQ–OAR–2015–0526 and is briefly summarized in section V of this preamble.

B. Paperwork Reduction Act (PRA)

The information collection activities in this proposed rule have been submitted for approval to the OMB under the PRA. The Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR number 2300.18. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

This action is proposing to amend specific provisions in the Greenhouse Gas Reporting Rule to streamline and improve implementation of the rule, improve the quality and consistency of the data collected under the rule, and to clarify or propose minor updates to certain provisions that have been the subject of questions from reporting entities. These proposed amendments would improve the quality and consistency of the data collected, as well as improve the efficiency of the reporting process for both the EPA and reporters. The proposed amendments are anticipated to increase burden in cases where the proposed amendments would expand current applicability, monitoring, or reporting, and are anticipated to decrease burden in cases

where the proposed amendments would streamline Part 98 to remove notification or reporting requirements or simplify the data that must be reported.

Specifically, this action proposes to amend the reporting requirements to add or revise 118 data elements in 21 subparts of Part 98. These revisions are necessary to improve the quality of the data collected under the GHGRP. The EPA is also proposing to remove 18 data elements in five subparts, which would streamline rule requirements. This action also proposes amendments that would affect the applicability of two subparts of Part 98: subparts V (Nitric Acid Production) and OO (Suppliers of Industrial Greenhouse Gases). These amendments could increase the number of facilities required to report under Part 98. Finally, this action proposes to revise the monitoring requirements of subpart FF of Part 98 (Underground Coal Mines). The proposed amendments would remove the option to allow Mine Safety and Health Administration (MSHA) quarterly inspection reports to be used as a source of data for monitoring methane liberated from ventilation systems, and require facilities to independently collect their own grab samples or to use continuous emissions monitoring. Impacts associated with the proposed changes to the applicability, monitoring, and reporting requirements are detailed in the memorandum "Assessment of Burden Impacts of 2015 Revisions to the Greenhouse Gas Reporting Rule" (see Docket Id. No. EPA–HQ–OAR–2015–0526). Burden is defined at 5 CFR 1320.3(b).

The total estimated incremental burden and cost associated with the proposed revisions is 23,456 hours and $2,049,478 over the 3 years covered by the information collection. These costs include $9,359 in RY2016, $33,782 in RY2017, and $2,006,337 in RY2018, averaging $683,159 per year over the three years. The total estimated number of reporters affected by the proposed amendments is 8,240. The proposed frequency of response for these changes is once annually,

with the exception of certain data elements for subpart I which would be submitted once every three years.

The estimated incremental costs and hour burden associated with the addition and revision of 118 data elements and the removal of 18 data elements in 21 subparts is 682 hours and $39,234 annually ($2011), including $9,359 from revisions first implemented in RY2016, $25,650 from revisions first implemented in RY2017, and $4,225 from revisions first implemented in RY2018. For subpart I, the new data elements in the proposed rule pertain to the triennial technology report required under 40 CFR 98.96(y), which must first be submitted with RY2016 reports on or before March 31, 2017 and every three years thereafter. For the purposes of estimating burden for the three years covered by the information collection, the annual burden and costs associated with these data elements (21 hours and $1,226) would apply for RY2016 only. Therefore, the estimated incremental burden and cost associated with reporting the new, revised, and removed data elements for all affected source categories is 588 hours and $33,782 in RY2017, and 661 hours and $38,007 for RY2018. The annual reporting burden associated with these changes is estimated to average 0.17 hour per response, and the estimated number of reporters affected is 7,127.

The estimated incremental cost burden associated with additional reporters to subparts V and OO is $119,759 in the first year (RY2018) and $93,015 in subsequent years. The incremental burden for the additional reporters for subpart V includes first-year costs of $83,544 and subsequent year costs of $66,403. The incremental burden for the additional reporters for subpart OO includes first-year costs of $36,215 and subsequent year costs of $26,612. The estimated number of likely new respondents that would result from these amendments is 12, including four additional reporters under subpart V, and an average of eight additional reporters for subpart OO.

The annual hourly burden for these additional reporters is based on the annual average hourly burden for existing reporters under subparts V and OO, which is 191 hours and 55 hours per reporter, respectively.

The incremental increase in costs for subpart FF reporters from the revised monitoring requirements are $28,440 per facility in the first year (RY2018) and $14,609 in subsequent years ($2011). The proposed revisions are estimated to affect 65 respondents and would have an industry incremental cost of $1,848,571 in the first year (RY2018) and $949,582 in subsequent years. The annual hourly burden associated with these monitoring costs are 320 hours per reporter in the first year and 165 hours in subsequent years.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

Submit your comments on the agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the EPA using the docket identified at the beginning of this rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs via email to oria_submissions@omb.eop.gov, Attention: Desk Officer for the EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after receipt, OMB must receive comments no later than [**INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER**]. The EPA will respond to any ICR-related comments in the final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. In making this determination, the impact of concern is any significant adverse economic impact on small entities. An agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, has no net burden or otherwise has a positive economic effect on the small entities subject to the rule. The impacts to small entities due to the revisions was evaluated for each subpart. The EPA conducted a screening assessment comparing compliance costs for revisions to reporting requirements, applicability to new reporters, and monitoring revisions under subparts V, FF, and OO to specific receipts data for establishments owned by small businesses in each industry. This ratio constitutes a "sales" test that computes the annualized compliance costs of this rule as a percentage of sales and determines whether the ratio exceeds 1 percent. The cost-to-sales ratios were constructed at the establishment level (average reporting program costs per establishment/average establishment receipts) for several business size ranges. We determined that the cost-to-sales ratios are less than 1 percent for all establishments in all business size ranges for subparts V, OO, and FF, except the ratio for the 1-19 employee size range for facilities in subpart FF was greater than 1 percent and less than 2 percent. The sales test for this size category was also exceeded in the original EIA[33] and the EPA noted that mines owned by enterprises with less than 19 employees would be unlikely to be covered by this rule. Therefore, we do not anticipate any impacts on small entities for subpart FF reporters, and we have determined that there will not be a significant economic impact to small entities for these three subparts. For all other subparts, which are only affected by revisions for adding, revising,

[33] U.S. EPA. Economic Impact Analysis for the Mandatory reporting of Greenhouse Gas Emissions: Subparts T, FF, TT, and II. See Docket Id. No. EPA-HQ-OAR-2008-0508-2313. June 2010.

or removing reporting requirements, we determined that these facilities will experience annual impacts of approximately $11 per facility. Because this cost is minimal, no small entity impacts are anticipated for the remaining subparts.

Although there are no small entity impacts associated with these proposed revisions, in the development of Part 98, the EPA took several steps to reduce the impact on small entities. For example, the EPA determined appropriate thresholds that reduced the number of small businesses reporting. In addition, the EPA conducted several meetings with industry associations to discuss regulatory options and the corresponding burden on industry, such as recordkeeping and reporting. The proposed rule amendments are minor technical corrections, clarifying, and other amendments that will not impose any new requirement on small entities that are not currently required by the regulation of Part 98. We have therefore concluded that this action will have no net regulatory burden for all directly regulated small entities. The EPA continues to conduct significant outreach on the GHGRP and maintains an "open door" policy for stakeholders to help inform the EPA's understanding of key issues for the industries. We continue to be interested in the potential impacts of the proposed rule amendments on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments.

The action implements mandate(s) specifically and explicitly set forth in CAA section 114(a)(1) without the exercise of any policy discretion by the EPA.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. The proposed rule amendments would not result in any changes to the requirements that are not currently required for 40 CFR part 98. Thus, Executive Order 13175 does not apply to this action. Consistent with the EPA Policy on Consultation and Coordination with Indian Tribes, the EPA consulted with tribal officials during the development of the rules for Part 98. A summary of that consultation is provided in sections VIII.E and VIII.F of the preamble to the October 30, 2009 final GHG reporting rule.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of "covered regulatory action" in section 2-202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not concern an environmental health risk or safety risk.

H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use

This action is not a "significant energy action" because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. Part 98 relates to monitoring, reporting, and recordkeeping and does not impact energy supply, distribution, or use.

This final rule amends monitoring, calculation, and reporting requirements for the GHGRP. In addition, the EPA is proposing confidentiality determinations for new and revised data elements proposed in this rulemaking and for certain existing data elements for which a confidentiality determination has not previously been proposed, or where the EPA has determined that the current determination is no longer appropriate. These proposed amendments and confidentiality determinations do not make any changes to the existing monitoring, calculation, and reporting requirements under Part 98 that affect the supply, distribution, or use of energy.

I. National Technology Transfer and Advancement Act

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income or indigenous populations because it does not affect the level of protection provided to human health or the environment because it is a rule addressing information collection and reporting procedures.

List of Subjects

40 CFR Part 98

Environmental protection, Administrative practice and procedure, Greenhouse gases, Incorporation by reference, Reporting and recordkeeping requirements, Suppliers.

Dated: December 21, 2015.

Gina McCarthy,
Administrator.

For the reasons stated in the preamble, the Environmental Protection Agency proposes to amend title 40, chapter I, of the Code of Federal Regulations as follows:

PART 98—MANDATORY GREENHOUSE GAS REPORTING

1. The authority citation for part 98 continues to read as follows:

AUTHORITY: 42 U.S.C. 7401-7671q.

Subpart A—General Provision

2. Section 98.2 is amended by:

a. Revising paragraph (a)(1);

b. Revising paragraph (i)(1) through (3); and

c. Adding paragraphs (i)(4) through (6).

The revisions and additions read as follows:

§ 98.2 Who must report?

(a) * * *

(1) *A facility that contains any source category that is listed in Table A-3 of this subpart*. For these facilities, the annual GHG report must cover stationary fuel combustion sources (subpart C of this part), miscellaneous use of carbonates (subpart U of this part), and all applicable source categories listed in Table A-3 and Table A-4 of this subpart.

* * * * *

(i) * * *

(1) If reported emissions are less than 25,000 metric tons CO_2e per year for five consecutive years, then the owner or operator may discontinue complying with this part provided that the owner or operator submits a notification to the Administrator that announces the cessation of reporting and explains the reasons for the reduction in emissions. The notification

shall be submitted no later than March 31 of the year immediately following the fifth consecutive year of emissions less than 25,000 tons CO_2e per year. The owner or operator must maintain the corresponding records required under § 98.3(g) for each of the five consecutive years prior to notification of discontinuation of reporting and retain such records for three years following the year that reporting was discontinued. The owner or operator must resume reporting if annual emissions in any future calendar year increase to 25,000 metric tons CO_2e per year or more.

(2) If reported emissions are less than 15,000 metric tons CO_2e per year for three consecutive years, then the owner or operator may discontinue complying with this part provided that the owner or operator submits a notification to the Administrator that announces the cessation of reporting and explains the reasons for the reduction in emissions. The notification shall be submitted no later than March 31 of the year immediately following the third consecutive year of emissions less than 15,000 tons CO_2e per year. The owner or operator must maintain the corresponding records required under § 98.3(g) for each of the three consecutive years and retain such records for three years prior to notification of discontinuation of reporting following the year that reporting was discontinued. The owner or operator must resume reporting if annual emissions in any future calendar year increase to 25,000 metric tons CO_2e per year or more.

(3) If the operations of a facility or supplier are changed such that all applicable processes and operations subject to paragraphs (a)(1) through (4) of this section cease to operate, then the owner or operator may discontinue complying with this part for the reporting years following the year in which cessation of such operations occurs, provided that the owner or operator submits a notification to the Administrator that announces the cessation of reporting and certifies to the closure of all applicable processes and operations no later than March 31 of the year

following such changes. If one or more processes or operations subject to paragraphs (a)(1) through (4) of this section at a facility or supplier cease to operate, but not all applicable processes or operations cease to operate, then the owner or operator is exempt from reporting for any such processes or operations in the reporting years following the reporting year in which cessation of the process or operation occurs, provided that the owner or operator submits a notification to the Administrator that announces the cessation of reporting for the process or operation no later than March 31 of the year following such changes. This paragraph (i)(3) does not apply to seasonal or other temporary cessation of operations. This paragraph (i)(3) does not apply to facilities with municipal solid waste landfills or industrial waste landfills, or to underground coal mines except those with abandoned status as determined by the U.S. Mine Safety & Health Administration. The owner or operator must resume reporting for any future calendar year during which any of the GHG-emitting processes or operations resume operation.

(4) The provisions of paragraphs (i)(1) and (2) of this section apply to suppliers subject to subparts LL through QQ of this part by substituting the term "quantity of GHG supplied" for "emissions." For suppliers, the provisions of paragraphs (i)(1) and (2) of this section apply individually to each importer and exporter and individually to each petroleum refinery, fractionator of natural gas liquids, local natural gas distribution company, and producer of CO_2, N_2O, or fluorinated greenhouse gases (e.g., a supplier of industrial greenhouse gases might qualify to discontinue reporting as an exporter of industrial greenhouse gases but still be required to report as an importer; or a company might qualify to discontinue reporting as a supplier of industrial greenhouse gases under subpart OO of this part but still be required to report as a supplier of carbon dioxide under subpart PP of this part).

(5) If the operations of a facility or supplier are changed such that a process or operation no longer meets the "Definition of Source Category" as specified in an applicable subpart, then the owner or operator may discontinue complying with any such subpart for the reporting years following the year in which change occurs, provided that the owner or operator submits a notification to the Administrator that announces the cessation of reporting for the process or operation no later than March 31 of the year following such changes. The owner or operator must resume complying with this part for the process or operation starting in any future calendar year during which the process or operation meets the "Definition of Source Category" as specified in an applicable subpart.

(6) If an entire facility or supplier is merged into another facility or supplier that is already reporting GHG data under this part, then the owner or operator may discontinue complying with this part for the facility or supplier, provided that the owner or operator submits a notification to the Administrator that announces the discontinuation of reporting and the e-GGRT identification number of the reconstituted facility no later than March 31 of the year following such changes.

* * * * *

3. Section 98.3 is amended by:

a. Revising paragraph (c)(4)(iii) introductory text;

b. Adding paragraph (c)(4)(iii)(G); and

c. Revising paragraphs (c)(5)(ii), (c)(8), (d)(1)(i), and (h)(4).

The revisions and additions read as follows:

§ 98.3 What are the general monitoring, reporting, recordkeeping and verification requirements of this part?

* * * * *

(c) * * *

(4) * * *

(iii) Annual emissions from each applicable source category, expressed in metric tons of each applicable GHG listed in paragraphs (c)(4)(iii)(A) through (F) of this section.

* * * * *

(G) For each reported fluorinated GHG and fluorinated heat transfer fluid, report the following identifying information:

(1) Chemical name. If the chemical is not listed in Table A-1 of this subpart, then use the method of naming organic chemical compounds as recommended by the International Union of Pure and Applied Chemistry (IUPAC).

(2) The CAS registry number assigned by the Chemical Abstracts Registry Service. If a CAS registry number is not assigned or is not associated with a single fluorinated GHG or fluorinated heat transfer fluid, then report an identification number assigned by EPA's Substance Registry Services.

(3) Linear chemical formula.

* * * * *

(5) * * *

(ii) Quantity of each GHG from each applicable supply category in Table A-5 to this subpart, expressed in metric tons of each GHG. For each reported fluorinated GHG, report the following identifying information:

(A*)* Chemical name. If the chemical is not listed in Table A-1 of this subpart, then use the method of naming organic chemical compounds as recommended by the International Union of Pure and Applied Chemistry (IUPAC).

(B*)* The CAS registry number assigned by the Chemical Abstracts Registry Service. If a CAS registry number is not assigned or is not associated with a single fluorinated GHG, then report an identification number assigned by EPA's Substance Registry Services.

(C) Linear chemical formula.

* * * * *

(8) Each parameter for which a missing data procedure was used according to the procedures of an applicable subpart and the total number of hours in the year that a missing data procedure was used for each parameter. Parameters include not only reported data elements, but any data element required for monitoring and calculating emissions.

* * * * *

(d) * * *

(1) * * *

(i) Monitoring methods currently used by the facility that do not meet the specifications of a relevant subpart.

* * * * *

(h) * * *

(4) Notwithstanding paragraphs (h)(1) and (2) of this section, upon request by the owner or operator, the Administrator may provide reasonable extensions of the 45-day period for submission of the revised report or information under paragraphs (h)(1) and (2) of this section. If the Administrator receives a request for extension of the 45-day period, by email to an address

prescribed by the Administrator prior to the expiration of the 45-day period, the extension request is deemed to be automatically granted for 30 days. The Administrator may grant an additional extension beyond the automatic 30-day extension if the owner or operator submits a request for an additional extension and the request is received by the Administrator prior to the expiration of the automatic 30-day extension, provided the request demonstrates that it is not practicable to submit a revised report or information under paragraphs (h)(1) and (2) of this section within 75 days. The Administrator will approve the extension request if the request demonstrates to the Administrator's satisfaction that it is not practicable to collect and process the data needed to resolve potential reporting errors identified pursuant to paragraphs (h)(1) or (2) of this section within 75 days.

* * * * *

4. Section 98.4 is amended by adding paragraph (i)(6) to read as follows:

§ 98.4 Authorization and responsibilities of the designated representative.

* * * * *

(i) * * *

(6) A list of the subparts that the owners and operators anticipate will be included in the annual GHG report. The list of potentially applicable subparts is required only for an initial certificate of representation that is submitted after **[date of publication of the final rule in the Federal Register]** (i.e., for a facility or supplier that previously was not registered under this part). The list of subparts is not required for a revised COR.

* * * * *

5. Section 98.6 is amended by revising the definition for “Gas collection system or landfill gas collection system”, adding a definition for “Reporting year” in alphabetical order, and revising the definition for “Ventilation hole or shaft” to read as follows:

§ 98.6 Definitions.

* * * * *

Gas collection system or landfill gas collection system means a system of pipes used to collect landfill gas from different locations in the landfill by means of a fan or similar mechanical draft equipment (forced convection) to a single location for treatment (thermal destruction) or use. Landfill gas collection systems may also include knock-out or separator drums and/or a compressor. A single landfill may have multiple gas collection systems. Landfill gas collection systems do not include “passive” systems, whereby landfill gas flows naturally (without forced convection) to the surface of the landfill where an opening or pipe (vent) is installed to allow for the flow of landfill gas to the atmosphere or to a remote flare installed to combust landfill gas that is passively emitted from the vent. Landfill gas collection systems also do not include “active venting” systems, whereby landfill gas is conveyed to the surface of the landfill using forced convection, but the landfill gas is never recovered or thermally destroyed prior to release to the atmosphere.

* * * * *

Reporting year means the calendar year during which the GHG data are required to be collected for purposes of the annual GHG report. For example, reporting year 2014 is January 1, 2014 through December 31, 2014, and the annual report for reporting year 2014 is submitted to EPA on March 31, 2015.

* * * * *

Ventilation hole or shaft means a vent hole, shaft, mine portal, adit or other mine entrance or exits employed at an underground coal mine to serve as the outlet or conduit to move air from the ventilation system out of the mine.

* * * * *

6. Section 98.7 is amended by revising paragraphs (e)(33) and (l)(1) to read as follows:

§ 98.7 What standardized methods are incorporated by reference into this part?

* * * * *

(e) * * *

(33) ASTM D6866-12 Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis, IBR approved for §§ 98.34(d), 98.34(e), and 98.36(e).

* * * * *

(l) * * *

(1) Coal Mine Safety and Health General Inspection Procedures Handbook, Handbook Number: PH13-V-1, February 2013, IBR approved for § 98.324(b).

* * * * *

7. Table A-3 to Subpart A of Part 98 is amended by revising the entries "Source Categories Applicable in 2010 and Future Years" and "Additional Source Categories Applicable in 2011 and Future Years" to read as follows:

Table A-3 to Subpart A of Part 98—Source Category List for § 98.2(a)(1)

Source Categories[a] Applicable in Reporting Year 2010 and Future Years
* * * * * * *
Additional Source Categories[a] Applicable in Reporting Year 2011 and Future Years
* * * * * * *

[a]Source categories are defined in each applicable subpart.

8. Table A-4 to Subpart A of Part 98 is amended by revising the entries "Source Categories Applicable in 2010 and Future Years" and "Additional Source Categories Applicable in 2011 and Future Years" to read as follows:

Table A-4 to Subpart A—Source Category List for § 98.2(a)(2)

Source Categories[a] Applicable in Reporting Year 2010 and Future Years
* * * * * * *
Additional Source Categories[a] Applicable in Reporting Year 2011 and Future Years
* * * * * * *

[a]Source categories are defined in each applicable subpart.

9. Table A-5 to Subpart A of Part 98 is amended by:

a. Revising the entry "Supplier Categories Applicable in 2010 and Future Years";

b. Revising the entries associated with "Industrial greenhouse gas suppliers (subpart OO)"; and

c. Revising the entry "Additional Supplier Categories Applicable in 2011 and Future Years."

The revisions read as follows:

Table A-5 to Subpart A—Supplier Category List for § 98.2(a)(4)

Supplier Categories[a] Applicable in Reporting Year 2010 and Future Years
* * * * * * *
Industrial greenhouse gas suppliers (subpart OO):
(A) All producers of industrial greenhouse gases and fluorinated heat transfer fluids.
(B) Importers of industrial greenhouse gases and fluorinated heat transfer fluids with annual bulk imports of N_2O, fluorinated GHG, fluorinated heat transfer fluids, and CO_2 that in combination are equivalent to 25,000 metric tons CO_2e or more.
(C) Exporters of industrial greenhouse gases with annual bulk exports of N_2O, fluorinated GHG, fluorinated heat transfer fluids, and CO_2 that in combination are equivalent to 25,000 metric tons CO_2e or more.
(D) Facilities that destroy 25,000 mtCO_2e or more of fluorinated GHGs or fluorinated heat transfer fluids annually.
* * * * * * * *

Additional Supplier Categories Applicable[a] in Reporting Year 2011 and Future Years
* * * * * * *

[a]Suppliers are defined in each applicable subpart.

Subpart C—General Stationary Fuel Combustion Sources

10. Section 98.33 is amended by revising parameters "$(HHV)_I$," "$(Fuel)_I$," and "n" of Equation C-2b in paragraph (a)(2)(ii)(A) and revising paragraphs (a)(5)(i)(C), (a)(5)(ii)(C), and (a)(5)(iii)(C) to read as follows:

§ 98.33 Calculating GHG emissions.

* * * * *

(a) * * *

(2) * * *

(ii) * * *

(A) * * *

* * * * *

$(HHV)_I$	=	Measured high heat value of the fuel, for sample period "i" (which may be the arithmetic average of multiple determinations), or, if applicable, an appropriate substitute data value (mmBtu per mass or volume).
$(Fuel)_I$	=	Mass or volume of the fuel combusted during the sample period "i," (e.g., monthly, quarterly, semi-annually, or by lot) from company records (express mass in short tons for solid fuel, volume in standard cubic feet (e.g., for gaseous fuel, and volume in gallons for liquid fuel).
n	=	Number of sample periods in the year.

* * * * *

(5) * * *

(i) * * *

(C) Divide the cumulative annual CO_2 mass emissions value by 1.1023 to convert it to metric tons.

* * * * *

(ii) * * *

(C) Divide the cumulative annual CO_2 mass emissions value by 1.1023 to convert it to metric tons.

(iii) * * *

(C) Divide the cumulative annual CO_2 mass emissions value by 1.1023 to convert it to metric tons.

* * * * *

11. Section 98.34 is amended by revising paragraphs (d) and (e) to read as follows:

§ 98.34 Monitoring and QA/QC requirements.

* * * * *

(d) Except as otherwise provided in § 98.33(b)(1)(vi) and (vii), when municipal solid waste (MSW) is either the primary fuel combusted in a unit or the only fuel with a biogenic component combusted in the unit, determine the biogenic portion of the CO_2 emissions using ASTM D6866-12 Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis (incorporated by reference, see § 98.7) and ASTM D7459-08 Standard Practice for Collection of Integrated Samples for the Speciation of Biomass (Biogenic) and Fossil-Derived Carbon Dioxide Emitted from Stationary Emissions Sources (incorporated by reference, see § 98.7). Perform the ASTM D7459-08 sampling and the ASTM D6866-12 analysis at least once in every calendar quarter in which MSW is combusted in the unit. Collect each gas sample during normal unit operating conditions

for at least 24 total (not necessarily consecutive) hours, or longer if the facility deems it necessary to obtain a representative sample. Notwithstanding this requirement, if the types of fuels combusted and their relative proportions are consistent throughout the year, the minimum required sampling time may be reduced to 8 hours if at least two 8-hour samples and one 24-hour sample are collected under normal operating conditions, and arithmetic average of the biogenic fraction of the flue gas from the 8-hour samples (expressed as a decimal) is within ±5 percent of the biogenic fraction from the 24-hour test. There must be no overlapping of the 8-hour and 24-hour test periods. Document the results of the demonstration in the unit's monitoring plan. If the types of fuels and their relative proportions are not consistent throughout the year, an optional sampling approach that facilities may wish to consider to obtain a more representative sample is to collect an integrated sample by extracting a small amount of flue gas (*e.g.*, 1 to 5 cc) in each unit operating hour during the quarter. Separate the total annual CO_2 emissions into the biogenic and non-biogenic fractions using the average proportion of biogenic emissions of all samples analyzed during the reporting year. Express the results as a decimal fraction (*e.g.*, 0.30, if 30 percent of the CO_2 is biogenic). When MSW is the primary fuel for multiple units at the facility, and the units are fed from a common fuel source, testing at only one of the units is sufficient.

(e) For other units that combust combinations of biomass fuel(s) (or heterogeneous fuels that have a biomass component, *e.g.*, tires) and fossil (or other non-biogenic) fuel(s), in any proportions, ASTM D6866-12 (incorporated by reference, see § 98.7) and ASTM D7459-08 (incorporated by reference, see § 98.7) may be used to determine the biogenic portion of the CO_2 emissions in every calendar quarter in which biomass and non-biogenic fuels are co-fired in the unit. Follow the procedures in paragraph (d) of this section. If the primary fuel for multiple units

at the facility consists of tires, and the units are fed from a common fuel source, testing at only one of the units is sufficient.

* * * * *

12. Section 98.36 is amended by adding paragraphs (c)(1)(iii) and (c)(3)(ii) and revising paragraphs (e)(2)(i), (e)(2)(x) introductory text, and (e)(2)(xi) to read as follows:

§ 98.36 Data reporting requirements.

* * * * *

(c) * * *

(1) * * *

(iii) Cumulative maximum rated heat input capacity of the group (mmBtu/hr). The cumulative maximum rated heat input capacity shall be determined as the sum of the maximum rated heat input capacities for all units in the group, excluding units less than 10 (mmBtu/hr).

* * * * *

(3) * * *

(ii) Cumulative maximum rated heat input capacity of the units served by the common pipe (mmBtu/hr). The cumulative maximum rated heat input capacity shall be determined as the sum of the maximum rated heat input capacities for all units served by the common pipe, excluding units less than 10 (mmBtu/hr).

* * * * *

(e) * * *

(2) * * *

(i) For the Tier 1 Calculation Methodology, report:

(A) The total quantity of each type of fuel combusted in the 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.

(B) If applicable, the moisture content used to calculate the wood and wood residuals wet basis HHV for use in Equations C-1 and C-8, in percent.

* * * * *

(x) When ASTM methods D7459-08 (incorporated by reference, see § 98.7) and D6866-12 (incorporated by reference, see § 98.7) are used to determine the biogenic portion of the annual CO_2 emissions from MSW combustion, as described in § 98.34(d), report:

* * * * *

(xi) When ASTM methods D7459-08 (incorporated by reference, see § 98.7) and D6866-12 (incorporated by reference, see § 98.7) are used in accordance with § 98.34(e) to determine the biogenic portion of the annual CO_2 emissions from a unit that co-fires biogenic fuels (or partly-biogenic fuels, including tires if you are electing to report biogenic CO_2 emissions from tire combustion) and non-biogenic fuels, you shall report the results of each quarterly sample analysis, expressed as a decimal fraction (e.g., if the biogenic fraction of the CO_2 emissions is 30 percent, report 0.30).

* * * * *

13. Section 98.37 is amended by revising paragraph (a) and adding paragraph (b)(37) to read as follows:

§ 98.37 Records that must be retained.

* * * * *

(a) The applicable records specified in §§ 98.34(f), 98.35(b), and 98.36(e).

* * * * *

(b) * * *

(37) Moisture content used to calculate the wood and wood residuals wet basis HHV (percent), if applicable (Equations C-1 and C-8).

14. Table C-1 to Subpart C of Part 98 is amended by:

a. Removing the entries “Petroleum Coke” under “Petroleum products”, "Petroleum Coke” under “Other fuels—solid”, and “Propane Gas” under “Other fuels—gaseous”;

b. Removing the heading “Petroleum products” in the “Fuel type” column and adding in its place the heading "Petroleum products—liquid"; and

c. Adding heading “Petroleum products—solid” and its entry "Petroleum Coke”,and heading “Petroleum products—gaseous”, and its entry “Propane Gas” after the entry “Crude Oil”.

The revisions, and additions read as follows:

Table C-1 to Subpart C of Part 98—Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel

Default CO_2 Emission Factors and High Heat Values for Various Types of Fuel

Fuel type	Default high heat value	Default CO_2 emission factor
* * * * * * *		
Petroleum products—liquid	mmBtu/gallon	kg CO_2/mmBtu
* * * * * * *		
Petroleum products—solid	mmBtu/short ton	kg CO_2/mmBtu
Petroleum Coke	30.00	102.41
Petroleum products—gaseous	mmBtu/scf	kg CO_2/mmBtu
Propane Gas	2.516×10^{-3}	61.46
* * * * * * *		

* * * * *

15. Table C-2 to Subpart C of Part 98 is amended by:

a. Removing the entry “Petroleum (All fuel types in Table C-1)” and adding in its place the entry "Petroleum Products (All fuel types in Table C-1)";

b. Removing the entry “Municipal Solid Waste” and adding in its place the entry " Other Fuels—Solid";

c. Removing the entry “Tires”.

The additions read as follows:

Table C-2 to Subpart C of Part 98—Default CH_4 and N_2O Emission Factors for Various Types of Fuel

Fuel type	Default CH_4 emission factor (kg CH_4/mmBtu)	Default N_2O emission factor (kg N_2O/mmBtu)
* * * * * * *		
Petroleum Products (All fuel types in Table C-1)	3.0×10^{-03}	6.0×10^{-04}
* * * * * * *		
Other Fuels—Solid	3.2×10^{-02}	4.2×10^{-03}
* * * * * * *		

* * * * *

Subpart E—Adipic Acid Production

16. Section 98.53 is amended by revising paragraph (a)(2) to read as follows:

§ 98.53 Calculating GHG emissions.

(a) * * *

(2) Request Administrator approval for an alternative method of determining N_2O emissions according to paragraphs (a)(2)(i) through (iv) of this section.

(i) If you received Administrator approval for an alternative method of determining N_2O emissions in the previous reporting year and your methodology is unchanged, your alternative method is automatically approved for the next reporting year.

(ii) You must notify the EPA of your use of a previously approved alternative method in your annual report.

(iii) Otherwise, you must submit the request within 45 days following promulgation of this subpart or within the first 30 days of each subsequent reporting year.

(iv) If the Administrator does not approve your requested alternative method within 150 days of the end of the reporting year, you must determine the N_2O emissions for the current reporting period using the procedures specified in paragraph (a)(1) of this section.

* * * * *

17. Section 98.56 is amended by revising paragraph (f) to read as follows:

§ 98.56 Data reporting requirements.

* * * * *

(f) Types of abatement technologies used and date of installation for each (if applicable).

* * * * *

Subpart F—Aluminum Production

18. Section 98.65 is amended by revising paragraph (a) introductory text and Equation F-8 to read as follows:

§ 98.65 Procedures for estimating missing data.

* * * * *

(a) Where anode or paste consumption data are missing, CO_2 emissions can be estimated from aluminum production by using Equation F-9 of this section.

$ECO_2 = EF_p \times MP_p + EF_s \times MP_s$ (Eq. F-9)

* * * * *

19. Section 98.66 is amended by adding paragraph (c)(2) and revising paragraph (c)(3) to read as follows:

§98.66 Data reporting requirements.

* * * * *

(c) * * *

(2) Anode effect minutes per cell-day (AE-mins/cell-day), anode effect frequency (AE/cell-day), anode effect duration (minutes). (Or anode effect overvoltage factor ((kg CF4/metric ton Al)/(mV/cell day)), potline overvoltage (mV/cell day), current efficiency (%).)

(3) Smelter-specific slope coefficients (or overvoltage emission factors) and the last date when the smelter-specific slope coefficients (or overvoltage emission factors) were measured.

* * * * *

Subpart G—Ammonia Manufacturing

20. Section 98.74 is amended by adding paragraph (f) to read as follows:

§98.74 Monitoring and QA/QC requirements.

* * * * *

(f) You may use company records or an engineering estimate to determine the annual ammonia production and the annual methanol production.

* * * * *

21. Section 98.76 is amended by:

a. Revising paragraph (a) introductory text;

b. Adding paragraph (a)(3); and

c. Adding paragraphs (b)(2) and (7), and revising paragraph (b)(15).

The revisions and additions read as follows:

§ 98.76 Data reporting requirements.

* * * * *

(a) If a CEMS is used to measure CO_2 emissions, then you must report the relevant information required under § 98.36 for the Tier 4 Calculation Methodology and the information in paragraphs (a)(1) through (3) of this section:

* * * * *

(3) Annual ammonia production (metric tons, sum of all process units reported within subpart G of this part).

(b) * * *

(2) Annual quantity of each type of feedstock consumed for ammonia manufacturing (scf of feedstock or gallons of feedstock or kg of feedstock).

* * * * *

(7) Annual average carbon content of each type of feedstock consumed.

* * * * *

(15) Annual methanol production for each process unit (metric tons), regardless of whether the methanol is subsequently destroyed, vented, or sold as product.

Subpart I—Electronics Manufacturing

22. Section 98.93 is amended by:

a. Revising paragraph (a)(1) introductory text;

b. Revising parameters "N_{il}" and "F_{il}" of Equation I-12 in paragraph (d);

c. Revising paragraphs (i)(1)(ii) and (i)(1)(iv);

d. Revising Equation I-17 in paragraph (i)(3)(ii);

e. Revising parameter "d_{if}" of Equation I-19 in paragraph (i)(3)(ii);

f. Revising parameter "d_{kf}" of Equation I-20 in paragraph (i)(3)(iv);

g. Revising parameter "d_{if}" of Equation I-21 in paragraph (i)(3)(v);

h. Revising parameter "d_{kf}" of Equation I-22 in paragraph (i)(3)(vi); and

i. Revising paragraph (i)(3)(viii) and paragraph (i)(4) introductory text.

The revisions read as follows:

§ 98.93 Calculating GHG emissions.

(a) * * *

(1) If you manufacture semiconductors, you must adhere to the procedures in paragraphs (a)(1)(i) through (iii) of this section. You must calculate annual emissions of each input gas and of each by-product gas using Equations I-6 and I-7 of this subpart, respectively. If your fab uses less than 50 kg of a fluorinated GHG in one reporting year, you may calculate emissions as equal to your fab's annual consumption for that specific gas as calculated in Equation I-11 of this subpart, plus any by-product emissions of that gas calculated under paragraph (a) of this section.

* * * * *

(d) * * *

* * * * *

N_{il} = Number of containers of size and type l used at the fab and returned to the gas distributor containing the standard heel of input gas i.

F_{il} = Full capacity of containers of size and type l containing input gas i (kg).

* * * * *

(i) * * *

(1) * * *

(ii) You must use representative data from the previous reporting year to estimate the consumption of input gas i as calculated in Equation I-13 of this subpart and the fraction of input gas i and by-product gas k destroyed in abatement systems for each stack system as calculated by Equations I-24A and I-24B of this subpart. If you were not required to submit an annual report under subpart I for the previous reporting year and data from the previous reporting year are not available, you may estimate the consumption of input gas i and the fraction of input gas i destroyed in abatement systems based on representative operating data from a period of at least 30 days in the current reporting year. When calculating the consumption of input gas i using Equation I-13 of this subpart, the term "f_{ij}" is replaced with the ratio of the number of tools using input gas i that are vented to the stack system for which you are calculating the preliminary estimate to the total number of tools in the fab using input gas i, expressed as a decimal fraction. You may use this approach to determining f_{ij} only for this preliminary estimate.

* * * * *

(iv) If you anticipate an increase or decrease in annual consumption or emissions of any fluorinated GHG, or the number of tools connected to abatement systems greater than 10 percent for the current reporting year compared to the previous reporting year, you must account for the anticipated change in your preliminary estimate. You may account for such a change using a quantifiable metric (e.g., the ratio of the number of tools that are expected to be vented to the stack system in the current year as compared to the previous reporting year, ratio of the expected number of wafer starts in the current reporting year as compared to the previous reporting year), engineering judgment, or other industry standard practice.

* * * * *

(3) * * *

(ii) * * *

$$E_{is} = MW_i * Q_s * \frac{1}{SV} * \frac{1}{10^3} * \sum_{m=1}^{N} \frac{X_{ism}}{10^9} * \Delta t_m \quad \text{(Eq. I-17)}$$

* * * * *

(iii) * * *

* * * * *

d_{if} = Fraction of fluorinated GHG input gas i destroyed or removed in abatement systems connected to process tools in fab f, as calculated in Equation I-24A of this subpart (expressed as decimal fraction). If the stack system does not have abatement systems on the tools vented to the stack system, the value of this parameter is zero.

* * * * *

(iv) * * *

* * * * *

d_{kf} = Fraction of fluorinated GHG by-product gas k destroyed or removed in abatement systems connected to process tools in fab f, as calculated in Equation I-24B of this subpart (expressed as decimal fraction).

* * * * *

(v) * * *

* * * * *

d_{if} = Fraction of fluorinated GHG input gas i destroyed or removed in abatement systems connected to process tools in fab f that are included in the stack testing option, as calculated in Equation I-24A of this subpart (expressed as decimal fraction).

* * * * *

(vi) * * *

* * * * *

dk_f = Fraction of fluorinated GHG by-product k destroyed or removed in abatement systems connected to process tools in fab f that are included in the stack testing option, as calculated in Equation I-24B of this subpart (expressed as decimal fraction).

* * * * *

(viii) When using the stack testing option described in paragraph (i) of this section, you must calculate the weighted-average fraction of each fluorinated input gas i and each fluorinated by-product gas k destroyed or removed in abatement systems for each fab f, as applicable, by using Equation I-24A (for input gases) and Equation I-24B (for by-product gases) of this subpart.

$$d_{if} = \frac{\sum_j [C_{ijf} \times (1 - U_{ij})) \times DRE_{ij}]}{\sum_j [C_{ijf} \times (1 - U_{ij})]} \quad \text{(Eq. I-24A)}$$

$$d_{kf} = \frac{\sum_j (C_{ijf} \times B_{ijk} \times DRE_{jk})}{\sum_j (C_{ijf} \times B_{ijk})} \quad \text{(Eq. I-24B)}$$

Where:

d_{if} = The average weighted fraction of fluorinated GHG input gas i destroyed or removed in abatement systems in fab f (expressed as a decimal fraction).

d_{kf} = The average weighted fraction of fluorinated GHG by-product gas k destroyed or removed in abatement systems in fab f (expressed as a decimal fraction).

C_{ijf} = The amount of fluorinated GHG input gas i consumed for process type j fed into abatement systems in fab f as calculated using Equation I-13 of this subpart (kg).

$(1 - U_{ij})$ = The default emission factor for input gas i used in process type j, from applicable Table I-3 to I-7 of this subpart.

B_{ijk} = The default by-product gas formation rate factor for by-product gas k from input gas i used in process type j, from applicable Table I-3 to I-7 of this subpart.

DRE_{ij} = Destruction or removal efficiency for fluorinated GHG input gas i in abatement systems connected to process tools where process type j is used (expressed as a decimal fraction) determined according to § 98.94(f).

DRE_{jk} = Destruction or removal efficiency for fluorinated GHG by-product gas k in abatement systems connected to process tools where input gas i is used in

process type j (expressed as a decimal fraction) determined according to § 98.94(f).

f = fab.

i = Fluorinated GHG input gas.

j = Process type.

(4) Method to calculate emissions from stack systems that are not tested. You must calculate annual fab-level emissions of each fluorinated GHG input gas and by-product gas for those fluorinated GHG listed in paragraphs (i)(4)(i) and (ii) of this section using default utilization and by-product formation rates as shown in Tables I-11, I-12, I-13, I-14, or I-15 of this subpart, as applicable, and by using Equations I-8, I-9, and I-13 of this subpart. When using Equations I-8, I-9, and I-13 of this subpart to fulfill the requirements of this paragraph, you must use, in place of the term C_{ij} in each equation, the total consumption of each fluorinated GHG meeting the criteria in paragraph (i)(4)(i) of this section or that is used in tools vented to the stack systems that meet the criteria in paragraph (i)(4)(ii) of this section. You must use, in place of the term a_{ij}, the fraction of fluorinated GHG meeting the criteria in paragraph (i)(4)(i) of this section used in tools with abatement systems or that is used in tools with abatement systems that are vented to the stack systems that meet the criteria in paragraph (i)(4)(ii) of this section. You also must use the results of Equations I-24A and I-24B of this subpart in place of the terms d_{ij} in Equation I-8 of this subpart and d_{jk} in Equation I-9 of this subpart, respectively, and use the results of Equation I-23 of this subpart in place of the results of Equation I-15 of this subpart for the term UT_{ij}.

* * * * *

23. Section 98.94 is amended by revising paragraph (f) introductory text and paragraph (j)(5)(ii) introductory text to read as follows:

§ 98.94 Monitoring and QA/QC requirements.

* * * * *

(f) If your fab employs abatement systems and you elect to reflect emission reductions due to these systems, or if your fab employs abatement systems designed for fluorinated GHG abatement and you elect to calculate fluorinated GHG emissions using the stack test method under § 98.93(i), you must comply with the requirements of paragraphs (f)(1) through (3) of this section. If you use an average of properly measured destruction or removal efficiencies for a gas and process sub-type or process type combination, as applicable, in your emission calculations under § 98.93(a), (b), and/or (i), you must also adhere to procedures in paragraph (f)(4) of this section.

* * * * *

(j) * * *

(5) * * *

(ii) Criteria to test less frequently. After the first 3 years of annual testing, you may calculate the relative standard deviation of the emission factors for each fluorinated GHG included in the test and use that analysis to determine the frequency of any future testing. As an alternative, you may conduct all three tests in less than 3 calendar years for purposes of this paragraph (j)(5)(ii), but this does not relieve you of the obligation to conduct subsequent annual testing if you do not meet the criteria to test less frequently. If the criteria specified in paragraphs (j)(5)(ii)(A) and (B) of this section are met, you may use the arithmetic average of the three emission factors for each fluorinated GHG and fluorinated GHG by-product for the current year and the next 4 years with no further testing unless your fab operations are changed in a way that triggers the re-test criteria in paragraph (j)(8) of this section. In the fifth year following the last stack test included in the previous average, you must test each of the stack systems for which

testing is required and repeat the relative standard deviation analysis using the results of the most recent three tests (i.e., the new test and the two previous tests conducted prior to the 4 year period). If the criteria specified in paragraphs (j)(5)(ii)(A) and (B) of this section are not met, you must use the emission factors developed from the most recent testing and continue annual testing. You may conduct more than one test in the same year, but each set of emissions testing for a stack system must be separated by a period of at least 2 months. You may repeat the relative standard deviation analysis using the most recent three tests, including those tests conducted prior to the 4 year period, to determine if you are exempt from testing for the next 4 years.

* * * * *

24. Section 98.96 is amended by:

a. Revising paragraphs (c)(2), (d), and (e);

b. Revising parameters "d_{if}" and "d_{kf}" of Equation I-28 in paragraph (r)(2); and

c. Revising paragraph (y)(2)(iv).

The revisions read as follows:

§ 98.96 Data reporting requirements.

* * * * *

(c) * * *

(2) When you use the procedures specified in § 98.93(a), each fluorinated GHG emitted from each process type or process sub-type as calculated in Equations I-8 and I-9 of this subpart, as applicable.

* * * * *

(d) The method of emissions calculation used in § 98.93 for each fab.

(e) Annual production in terms of substrate surface area (e.g., silicon, PV-cell, glass) for each fab, including specification of the substrate.

* * * * *

(r) * * *

(2) * * *

* * * * *

d_{if} = Fraction of fluorinated GHG i destroyed or removed in abatement systems connected to process tools in fab f, as calculated from Equation I-24A of this subpart, which you used to calculate total emissions according to the procedures in § 98.93(i)(3) (expressed as a decimal fraction).

* * * * *

d_{kf} = Fraction of fluorinated GHG by-product k destroyed or removed in abatement systems connected to process tools in fab f, as calculated from Equation I-24B of this subpart, which you used to calculate total emissions according to the procedures in § 98.93(i)(3) (expressed as a decimal fraction).

* * * * *

(y) * * *

(2) * * *

(iv) It must provide any utilization and by-product formation rates and/or destruction or removal efficiency data that have been collected in the previous 3 years that support the changes in semiconductor manufacturing processes described in the report. For any utilization, by-product formation rate, and/or destruction or removal efficiency data submitted, the report must describe, where available: methods used for the measurements, wafer size, film type being manufactured, substrate type, the linewidth or technology node, process type, process subtype for chamber clean processes, the input gases used and measured, the utilization rates measured, and the by-product formation rates measured.

* * * * *

25. Section 98.97 is amended by revising paragraphs (d)(5) introductory text and (d)(7) to read as follows:

§ 98.97 Records that must be retained.

* * * * *

(d) * * *

(5) In addition to the inventory specified in § 98.96(p), the information in paragraphs (d)(5)(i) through (iii) of this section:

* * * * *

(7) Records of all inputs and results of calculations made to determine the average weighted fraction of each gas destroyed or removed in the abatement systems for each stack system using Equations I-24A and I-24B of this subpart, if applicable. The inputs should include an indication of whether each value for destruction or removal efficiency is a default value or a measured site-specific value.

* * * * *

26. Table I-3 of subpart I is amended to read as follows:

Table I–3 to Subpart I of Part 98—Default Emission Factors ($1–U_{ij}$) for Gas Utilization Rates (U_{ij}) and By-Product Formation Rates (B_{ijk}) for Semiconductor Manufacturing for 150mm and 200 mm Wafer Sizes

Process type/Sub-type	Process gas i												
	CF_4	C_2F_6	CHF_3	CH_2F_2	C_2HF_5	CH_3F	C_3F_8	C_4F_8	NF_3	SF_6	C_4F_6	C_5F_8	C_4F_8O
ETCHING/WAFER CLEANING													
$1–U_i$	0.81	0.72	0.51	0.13	0.064	0.70	NA	0.14	0.19	0.55	0.17	0.072	NA
BCF_4	NA	0.10	0.085	0.079	0.077	NA	NA	0.11	0.0040	0.13	0.13	NA	NA
BC_2F_6	0.046	NA	0.030	0.025	0.024	0.0034	NA	0.037	0.025	0.11	0.11	0.014	NA
BC_4F_6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Process type/Sub-type	Process gas i												
	CF_4	**C_2F_6**	**CHF_3**	**CH_2F_2**	**C_2HF_5**	**CH_3F**	**C_3F_8**	**C_4F_8**	**NF_3**	**SF_6**	**C_4F_6**	**C_5F_8**	**C_4F_8O**
BC_4F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_5F_8	0.0012	NA	0.0012	NA	NA	NA	NA	0.0086	NA	NA	NA	NA	NA
$BCHF_3$	0.10	0.047	NA	0.049	NA	NA	NA	0.040	NA	0.0012	0.066	0.0039	NA
CHAMBER CLEANING													
In situ plasma cleaning:													
$1–U_i$	0.92	0.55	NA	NA	NA	NA	0.40	0.10	0.18	NA	NA	NA	0.14
BCF_4	NA	0.19	NA	NA	NA	NA	0.20	0.11	0.050	NA	NA	NA	0.13
BC_2F_6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.045
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Remote plasma cleaning:													
$1–U_i$	NA	NA	NA	NA	NA	NA	NA	NA	0.017	NA	NA	NA	NA
BCF_4	NA	NA	NA	NA	NA	NA	NA	NA	0.015	NA	NA	NA	NA
BC_2F_6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
In situ thermal cleaning:													
$1–U_i$	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BCF_4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_2F_6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC_3F_8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: NA = Not applicable; i.e., there are no applicable default emission factor measurements for this gas. This does not necessarily imply that a particular gas is not used in or emitted from a particular process sub-type or process type.

Subpart N—Glass Production

27. Section 98.144 is amended by revising paragraphs (b), (c), and (d) to read as follows:

§ 98.144 Monitoring and QA/QC requirements.

* * * * *

(b) Unless you use the default value of 1.0, you must measure carbonate-based mineral mass fractions at least annually to verify the mass fraction data provided by the supplier of the

raw material; such measurements shall be based on sampling and chemical analysis using consensus standards that specify X-ray fluorescence. For measurements made in years prior to the emissions reporting year 2014, you may also use ASTM D3682-01 (Reapproved 2006) Standard Test Method for Major and Minor Elements in Combustion Residues from Coal Utilization Processes (incorporated by reference, *see* § 98.7) or ASTM D6349-09 Standard Test Method for Determination of Major and Minor Elements in Coal, Coke, and Solid Residues from Combustion of Coal and Coke by Inductively Coupled Plasma—Atomic Emission Spectrometry (incorporated by reference, *see* § 98.7).

(c) Unless you use the default value of 1.0, you must determine the annual average mass fraction for the carbonate-based mineral in each carbonate-based raw material by calculating an arithmetic average of the monthly data obtained from raw material suppliers or sampling and chemical analysis.

(d) Unless you use the default value of 1.0, you must determine on an annual basis the calcination fraction for each carbonate consumed based on sampling and chemical analysis using an industry consensus standard. If performed, this chemical analysis must be conducted using an x-ray fluorescence test or other enhanced testing method published by an industry consensus standards organization (e.g., ASTM, ASME, API, etc.).

28. Section 98.146 is amended by revising paragraphs (b)(5) introductory text and (b)(7) to read as follows:

§ 98.146 Data reporting requirements.

* * * * *

(b) * * *

(5) Results of all tests, if applicable, used to verify the carbonate-based mineral mass fraction for each carbonate-based raw material charged to a continuous glass melting furnace, as specified in paragraphs (b)(5)(i) through (iii) of this section.

* * * * *

(7) Method used to determine decimal fraction of calcination, unless you used the default value of 1.0.

* * * * *

29. Section 98.147 is amended by revising paragraphs (b)(3), (b)(4) introductory text, (d)(2), and (d)(3) to read as follows:

§ 98.147 Records that must be retained.

* * * * *

(b) * * *

(3) Data on carbonate-based mineral mass fractions provided by the raw material supplier for all raw materials consumed annually and included in calculating process emissions in Equation N-1 of this subpart, if applicable.

(4) Results of all tests, if applicable, used to verify the carbonate-based mineral mass fraction for each carbonate-based raw material charged to a continuous glass melting furnace, including the data specified in paragraphs (b)(4)(i) through (v) of this section.

* * * * *

(d) * * *

(2) Annual amount of each carbonate-based raw material charged to each continuous glass melting furnace (tons) (Equation N-1 of this subpart).

(3) Decimal fraction of calcination achieved for each carbonate-based raw material for each continuous glass melting furnace (specify the default value, if used, or the value determined according to § 98.144) (percentage, expressed as a decimal) (Equation N-1 of this subpart).

Subpart O—HCFC-22 Production and HFC-23 Destruction

30. Section 98.156 is amended by revising paragraphs (a) introductory text and (d) to read as follows:

§ 98.156 Data reporting requirements.

(a) In addition to the information required by § 98.3(c), the HCFC-22 production facility shall report the following information for each HCFC-22 production process:

* * * * *

(d) 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), the facility shall report the method used to calculate the revised destruction efficiency, specifying whether § 98.154(l)(1) or (2) has been used for the calculation.

* * * * *

Subpart P—Hydrogen Production

31. Section 98.163 is amended by revising parameter "CO_2" of Equation P-3 in paragraph (b)(3) to read as follows:

§ 98.163 Calculating GHG emissions.

* * * * *

(b) * * *

(3) * * *

* * * * *

CO_2 = Annual CO_2 emissions from fuel and feedstock consumption (metric tons/yr).

* * * * *

32. Section 98.164 is amended by revising paragraph (b)(1) to read as follows:

§ 98.164 Monitoring and QA/QC requirements.

* * * * *

(b) * * *

(1) Calibrate all oil and gas flow meters that are used to measure liquid and gaseous fuel and feedstock volumes (except for gas billing meters) according to the monitoring and QA/QC requirements for the Tier 3 methodology in § 98.34(b)(1). Perform oil tank drop measurements (if used to quantify liquid fuel or feedstock consumption) according to § 98.34(b)(2). Calibrate all solids weighing equipment according to the procedures in § 98.3(i).

* * * * *

33. Section 98.166 is amended by revising paragraphs (b)(4), (d), and (e) to read as follows:

§ 98.166 Data reporting requirements.

* * * * *

(b) * * *

(4) Annual quantity of ammonia intentionally produced as a desired product, if applicable (metric tons).

* * * * *

(d) Annual quantity of carbon other than CO_2 collected and transferred off site in either gas, liquid, or solid forms (kg carbon), excluding methanol.

(e) Annual quantity of methanol intentionally produced as a desired product, if applicable, (metric tons) for each process unit.

Subpart Q—Iron and Steel Production

34. Section 98.173 is amended by revising Equation Q-5 in paragraph (b)(1)(v) to read as follows:

§ 98.173 Calculating GHG emissions.

* * * * *

(b) * * *

(1) * * *

(v) * * *

$$CO_2 = \frac{44}{12} * \left[\frac{(Iron) * (C_{iron}) + (Scrap) * (C_{scrap}) + (Flux) * (C_{Flux}) + /Electrode * (C_{Electrode}) + (Carbon)}{* (C_{Carbon}) - (Steel) * (C_{Steel}) + (F_g) * (C_{gf}) * \frac{MW}{MVC} * 0.001 - (Slag) * (C_{Slag}) - (R) * (C_R)} \right] \quad \text{(Eq. Q-5)}$$

* * * * *

35. Section 98.176 is amended by revising Equation Q-10 in paragraph (e)(6)(ii), Equation Q-11 in paragraph (e)(6)(iii), Equation Q-12 in paragraph (e)(6)(iv), and the parameter "n" of Equation Q-12 in paragraph (e)(6)(iv) to read as follows:

§ 98.176 Data reporting requirements.

* * * * *

(e) * * *

(6) * * *

(ii) * * *

$$NFI = \sum_{i=1}^{n} \begin{pmatrix} O + Iron + Scrap + Flux + Carbon + Coal + Feed \\ + Electrode + Steel_{in} + Ore + Other \end{pmatrix} \quad \text{(Eq. Q-10)}$$

* * * * *

(iii) * * *

$$Products = \sum_{i=1}^{n} (P + R + Steel_{out} + Slag + Coke + Sinter + Iron + NM) \quad \text{(Eq. Q-11)}$$

* * * * *

(iv) * * *

$$CF_{avg} = \frac{\sum_{i=1}^{n}(F_{g,i} * \frac{MW_i}{MVC} * C_{gf,i} * 0.001 + F_{l,i} * C_{lf,i} * 0.001 + F_{s,i} * C_{sf})}{Fuel} \quad \text{(Eq. Q-12)}$$

* * * * *

n = Number of gaseous, liquid, and solid fuel inputs to each process unit as used in Equation Q-9 of this subpart.

* * * * *

Subpart S—Lime Manufacturing

36. Section 98.196 is amended by revising paragraph (b) introductory text and adding paragraphs (b)(19) through (21) to read as follows:

§ 98.196 Data reporting requirements.

* * * * *

(b) If a CEMS is not used to measure CO_2 emissions, then you must report the information listed in paragraphs (b)(1) through (21) of this section.

* * * * *

(19) Annual emission factors for each lime product type produced.

(20) Annual emission factors for each calcined byproduct/waste by lime type that is sold.

(21) Annual average results of chemical composition analysis of each type of lime product produced and calcined byproduct/waste sold.

Subpart U—Miscellaneous Uses of Carbonate

37. Section 98.216 is amended by revising paragraph (e) introductory text to read as follows:

§ 98.216 Data reporting requirements.

* * * * *

(e) If you followed the calculation method of § 98.213(a), you must report the information in paragraphs (e)(1) through (3) of this section.

* * * * *

Subpart V—Nitric Acid Production

38. Section 98.220 is revised to read as follows:

§ 98.220 Definition of source category.

A nitric acid production facility uses one or more trains to produce nitric acid. A nitric acid train produces nitric acid through the catalytic oxidation of ammonia.

39. Section 98.223 is amended by revising paragraph (a)(2) to read as follows:

§ 98.223 Calculating GHG emissions.

(a) * * *

(2) Request Administrator approval for an alternative method of determining N_2O emissions according to paragraphs (a)(2)(i) through (iv) of this section.

(i) If you received Administrator approval for an alternative method of determining N_2O emissions in the previous reporting year and your methodology is unchanged, your alternative method is automatically approved for the next reporting year.

(ii) You must notify the EPA of your use of a previously approved alternative method in your annual report.

(iii) Otherwise, if you have not received Administrator approval for an alternative method of determining N_2O emissions in a prior reporting year or your methodology has changed, you must submit the request within the first 30 days of each subsequent reporting year.

(iv) If the Administrator does not approve your requested alternative method within 150 days of the end of the reporting year, you must determine the N_2O emissions for the current reporting period using the procedures specified in paragraph (a)(1) of this section.

* * * * *

40. Section 98.226 is amended by revising paragraph (h) to read as follows:

§98.226 Data reporting requirements.

* * * * *

(h) Abatement technologies used (if applicable) and date of installation of abatement technology.

* * * * *

Subpart X—Petrochemical Production

41. Section 98.240 is amended by revising paragraph (a) to read as follows:

§ 98.240 Definition of the source category.

(a) The petrochemical production source category consists of processes as described in paragraphs (a)(1) through (3) of this section.

(1) The petrochemical production source category consists of all processes that produce acrylonitrile, carbon black, ethylene, ethylene dichloride, ethylene oxide, or methanol, except as specified in paragraphs (b) through (g) of this section.

(2) The petrochemical production source category includes processes that produce the petrochemical as an intermediate in the on-site production of other chemicals as well as processes that produce the petrochemical as an end product for sale or shipment off site.

(3) When ethylene dichloride and vinyl chloride monomer are produced in an integrated process, you may consider the entire integrated process to be the petrochemical process for the

purpose of complying with the mass balance option in § 98.243(c). If you elect to consider the integrated process to be the petrochemical process, then the mass balance must be performed over the entire integrated process.

* * * * *

42. Section 98.243 is amended by revising paragraphs (c)(3), (c)(4) introductory text, and (c)(4)(i) to read as follows:

§ 98.243 Calculating GHG emissions.

* * * * *

(c) * * *

(3) Collect a sample of each feedstock and product at least once per month and determine the molecular weight (for gaseous materials when the quantity is measured in scf) and carbon content of each sample according to the procedures of § 98.244(b)(4). If multiple valid molecular weight or carbon content measurements are made during the monthly measurement period, average them arithmetically. However, if a particular liquid or solid feedstock is delivered in lots, and if multiple deliveries of the same feedstock are received from the same supply source in a given calendar month, only one representative sample is required. Alternatively, you may use the results of analyses conducted by a feedstock supplier, or product customer, provided the sampling and analysis is conducted at least once per month using any of the procedures specified in § 98.244(b)(4).

(4) If you determine that the monthly average concentration of a specific compound in a feedstock or product is greater than 99.5 percent by volume or mass, then as an alternative to the sampling and analysis specified in paragraph (c)(3) of this section, you may determine molecular weight and carbon content in accordance with paragraphs (c)(4)(i) through (iii) of this section.

(i) Calculate the molecular weight and carbon content assuming 100 percent of that feedstock or product is the specific compound.

* * * * *

43. Section 98.246 is amended by:

a. Revising paragraphs (a)(5), (a)(6)(ii), and (a)(6)(iii);

b. Adding paragraphs (a)(14) and (15); and

c. Revising paragraphs (b)(2), (3), and (8).

The revisions and additions read as follows:

§ 98.246 Data reporting requirements.

* * * * *

(a) * * *

(5) Annual quantity of each type of petrochemical produced from each process unit (metric tons). If your petrochemical process is an integrated ethylene dichloride and vinyl chloride monomer process, report either the measured ethylene dichloride production (metric tons) or both the measured quantity of vinyl chloride monomer production (metric tons) and an estimate of the ethylene dichloride production (metric tons).

(6) * * *

(ii) Description of each type of measurement device (e.g., flow meter, weighing device) used to determine volume or mass in accordance with § 98.244(b)(1) through (3).

(iii) Identification of each method (i.e., method number, title, or other description) used to determine volume or mass in accordance with § 98.244(b)(1) through (3).

* * * * *

(14) Annual average of the measurements of the carbon content of each feedstock and product.

(i) For feedstocks and products that are gaseous or solid, report this quantity in kg carbon per kg of feedstock or product.

(ii) For liquid feedstocks and products, report this quantity either in units of kg carbon per kg of feedstock or production, or kg C per gallon of feedstock or product.

(15) For each gaseous feedstock and product, the annual average of the measurements of molecular weight in units of kg per kg mole.

(b) * * *

(2) For CEMS used on stacks that include emissions from stationary combustion units that burn any amount of off-gas from the petrochemical process, report the relevant information required under § 98.36(c)(2) and (e)(2)(vi) for the Tier 4 calculation methodology. Section 98.36(c)(2)(ii), (ix) and (x) does not apply for the purposes of this subpart.

(3) For CEMS used on stacks that do not include emissions from stationary combustion units, report the information required under § 98.36(b)(6), (b)(7), (b)(9)(i), (b)(9)(ii) and (e)(2)(vi).

* * * * *

(8) Annual quantity of each type of petrochemical produced from each process unit (metric tons). If your petrochemical process is an integrated ethylene dichloride and vinyl chloride monomer process, report either the measured ethylene dichloride production (metric tons) or both the measured quantity of vinyl chloride monomer production (metric tons) and an estimate of the ethylene dichloride product (metric tons).

* * * * *

44. Section 98.247 is amended by revising paragraph (a) to read as follows:

§ 98.247 Records that must be retained.

* * * * *

(a) If you comply with the CEMS measurement methodology in § 98.243(b), then you must retain under this subpart the records required for the Tier 4 Calculation Methodology in § 98.37, records of the procedures used to develop estimates of the fraction of total emissions attributable to petrochemical processing and combustion of petrochemical process off-gas as required in § 98.246(b), and records of any annual average HHV calculations.

* * * * *

45. Section 98.248 is amended by revising the definition for "Product" to read as follows:

§ 98.248 Definitions.

* * * * *

Product means each of the following carbon-containing outputs from a process: the petrochemical, recovered byproducts, and liquid organic wastes that are not combusted onsite. Product does not include process vent emissions, fugitive emissions, or wastewater.

Subpart Y—Petroleum Refineries

46. Section 98.253 is amended by:

a. Revising paragraphs (b) introductory text, (b)(1)(iii)(B), (h)(1) introductory text, and (h)(2) introductory text;

b. Revising parameters "0.98" of Equations Y-16a and Y-16b and "0.02" of Equation Y-17 in paragraph (h)(2); and

c. Revising paragraph (i) and paragraph (j) introductory text.

The revisions read as follows:

§ 98.253 Calculating GHG emissions.

* * * * *

(b) For flares, calculate GHG emissions according to the requirements in paragraphs (b)(1) through (3) of this section. All gas discharged through the flare stack must be considered for the flare GHG emissions calculations with the exception of gas used for the flare pilots, which may be excluded.

(1) * * *

(iii) * * *

(B) For periods of normal operation, use the average higher heating value measured for the fuel gas used as flare sweep or purge gas for the higher heating value of the flare gas. If higher heating value of the fuel gas is not measured, the higher heating value of the flare gas under normal operations may be estimated from historic data or engineering calculations.

* * * * *

(h) * * *

(1) For uncontrolled asphalt blowing operations or asphalt blowing operations controlled either by vapor scrubbing or by another non-combustion control device, calculate CO_2 and CH_4 emissions using Equations Y-14 and Y-15 of this section, respectively.

* * * * *

(2) For asphalt blowing operations controlled by either a thermal oxidizer, a flare, or other vapor combustion control device, calculate CO_2 using either Equation Y-16a or Equation Y-16b of this section and calculate CH_4 emissions using Equation Y-17 of this section, provided these emissions are not already included in the flare emissions calculated in paragraph (b) of this

section or in the stationary combustion unit emissions required under subpart C of this part (General Stationary Fuel Combustion Sources).

* * * * *

(Eq. Y-16a) * * *

* * * * *

0.98 = Assumed combustion efficiency of the control device.

* * * * *

(Eq. Y-16b) * * *

* * * * *

0.98 = Assumed combustion efficiency of the control device.

* * * * *

(Eq. Y-17) * * *

* * * * *

0.02 = Fraction of methane uncombusted in the controlled stream based on assumed 98% combustion efficiency.

* * * * *

(i) For each delayed coking unit, calculate the CH_4 emissions from delayed decoking operations (venting, draining, deheading, and coke-cutting) according to the requirements in paragraphs (i)(1) through (5) of this section.

(1) Determine the typical dry mass of coke produced per cycle from company records of the mass of coke produced by the delayed coking unit. Alternatively, you may estimate the typical dry mass of coke produced per cycle based on the delayed coking unit vessel (coke drum) dimensions and typical coke drum outage at the end of the coking cycle using Equation Y-18a of this section.

$$M_{coke} = \rho_{bulk} \times \left(\left(H_{drum} - H_{outage} \right) \times \frac{\pi \times D^2}{4} \right) \quad \text{(Eq. Y-18a)}$$

Where:

M_{coke} = Typical dry mass of coke in the delayed coking unit vessel at the end of the coking cycle (metric tons/cycle).

ρ_{bulk} = Bulk coke bed density (metric tons per cubic feet; mt/ft^3). Use the default value of 0.0191 mt/ft^3.

H_{drum} = Internal height of delayed coking unit vessel (feet).

H_{outage} = Typical distance from the top of the delayed coking unit vessel to the top of the coke bed (i.e., coke drum outage) at the end of the coking cycle (feet) from company records or engineering estimates.

D = Diameter of delayed coking unit vessel (feet).

(2) Determine the typical mass of water in the delayed coking unit vessel at the end of the cooling cycle prior to venting to the atmosphere using Equation Y-18b of this section.

$$M_{water} = \rho_{water} \times \left(\left(H_{water} \right) \times \frac{\pi \times D^2}{4} - \frac{M_{coke}}{\rho_{particle}} \right) \quad \text{(Eq. Y-18b)}$$

Where:

M_{water} = Mass of water in the delayed coking unit vessel at the end of the cooling cycle just prior to atmospheric venting (metric tons/cycle).

ρ_{water} = Density of water at average temperature of the delayed coking unit vessel at the end of the cooling cycle just prior to atmospheric venting (metric tons per cubic feet; mt/ft^3). Use the default value of 0.0270 mt/ft^3.

H_{water} = Typical distance from the bottom of the coking unit vessel to the top of the water level at the end of the cooling cycle just prior to atmospheric venting (feet) from company records or engineering estimates.

M_{coke} = Typical dry mass of coke in the delayed coking unit vessel at the end of the coking cycle (metric tons/cycle) as determined in paragraph (i)(1) of this section.

$\rho_{particle}$ = Particle density of coke (metric tons per cubic feet; mt/ft^3). Use the default value of 0.0382 mt/ft^3.

D = Diameter of delayed coking unit vessel (feet).

(3) Determine the average temperature of the delayed coking unit vessel when the drum is first vented to the atmosphere using either Equation Y-18c or Y-18d of this section, as appropriate, based on the measurement system available.

$$T_{initial} = (T_{overhead} + T_{bottom})/2 \quad \text{(Eq. Y-18c)}$$

Where:

$T_{initial}$ = Average temperature of the delayed coking unit vessel when the drum is first vented to the atmosphere (°F).

$T_{overhead}$ = Temperature of the delayed coking unit vessel overhead line measured as near the coking unit vessel as practical just prior to venting to the atmosphere. If the temperature of the delayed coking unit vessel overhead line is less than 216 °F, use $T_{overhead}$ = 216 °F.

T_{bottom} = Temperature of the delayed coking unit vessel near the bottom of the coke bed. If the temperature at the bottom of the coke bed is less than 212 °F, use T_{bottom} = 212 °F.

$$T_{initial} = -0.039\ P_{overhead}^2 + 3.13\ P_{overhead} + 220 \quad \text{(Eq. Y-18d)}$$

Where:

$T_{initial}$ = Average temperature of the delayed coking unit vessel when the drum is first vented to the atmosphere (°F).

$P_{overhead}$ = Pressure of the delayed coking unit vessel just prior to opening the atmospheric vent (pounds per square inch gauge, psig).

(4) Determine the typical mass of steam generated and released per decoking cycle using Equation Y-18e of this section.

$$M_{steam} = \frac{\left(1 - f_{ConvLoss}\right) \times \left(M_{water} \times C_{p,water} + M_{coke} \times C_{p,coke}\right) \times \left(T_{initial} - T_{final}\right)}{\Delta H_{vap}} \quad \text{(Eq. Y-18e)}$$

Where:

M_{steam} = Mass of steam generated and released per decoking cycle (metric tons/cycle).

$f_{ConvLoss}$ = fraction of total heat loss that is due to convective heat loss from the sides of the coke vessel (unitless). Use the default value of 0.10.

M_{water} = Mass of water in the delayed coking unit vessel at the end of the cooling cycle just prior to atmospheric venting (metric tons/cycle).

$C_{p,water}$ = Heat capacity of water (British thermal units per metric ton per degree Fahrenheit; Btu/mt-°F). Use the default value of 2,205 Btu/mt-°F.

M_{coke} = Typical dry mass of coke in the delayed coking unit vessel at the end of the coking cycle (metric tons/cycle) as determined in paragraph (i)(1) of this section.

$C_{p,coke}$ = Heat capacity of petroleum coke (Btu/mt-°F). Use the default value of 584 Btu/mt-°F.

$T_{initial}$ = Average temperature of the delayed coking unit vessel when the drum is first vented to the atmosphere (°F) as determined in paragraph (i)(3) of this section.

T_{final} = Temperature of the delayed coking unit vessel when steam generation stops (°F). Use the default value of 212 °F.

ΔH_{vap} = Heat of vaporization of water (British thermal units per metric ton; Btu/mt). Use the default value of 2,116,000 Btu/mt.

(5) Calculate the CH4 emissions from decoking operations at each delayed coking unit using Equation Y-18f of this section.

$$CH_4 = M_{steam} \times EmF_{DCU} \times N \times 0.001 \quad \text{(Eq. Y-18f)}$$

Where:

CH_4 = Annual methane emissions from the delayed coking unit decoking operations (metric ton/year).

M_{steam} = Mass of steam generated and released per decoking cycle (metric tons/cycle) as determined in paragraph (i)(3) of this section.

EmF_{DCU} = Methane emission factor for delayed coking unit (kilograms CH_4 per metric ton of steam; kg CH_4/mt steam) from unit-specific measurement data. If you do not have unit-specific measurement data, use the default value of 7.9 kg CH_4/metric ton steam.

N = Cumulative number of decoking cycles (or coke-cutting cycles) for all delayed coking unit vessels associated with the delayed coking unit during the year.

0.001 = Conversion factor (metric ton/kg).

(j) For each process vent not covered in paragraphs (a) through (i) of this section that can reasonably be expected to contain greater than 2 percent by volume CO_2 or greater than 0.5

percent by volume of CH_4 or greater than 0.01 percent by volume (100 parts per million) of N_2O, calculate GHG emissions using Equation Y-19 of this section. You must also use Equation Y-19 of this section to calculate CH_4 emissions for catalytic reforming unit depressurization and purge vents when methane is used as the purge gas, and CO_2 and/or CH_4 emissions, as applicable, if you elected this method as an alternative to the methods in paragraphs (f), (h), or (k) of this section.

* * * * *

47. Section 98.254 is amended by revising paragraph (j), redesignating paragraph (k) as paragraph (l), and adding new paragraph (k) to read as follows:

§ 98.254 Monitoring and QA/QC requirements.

* * * * *

(j) Determine the quantity of petroleum process streams using company records. These quantities include the quantity of coke produced per cycle, asphalt blown, quantity of crude oil plus the quantity of intermediate products received from off site, and the quantity of unstabilized crude oil received at the facility.

(k) Determine temperature or pressure of delayed coking unit vessel using process instrumentation operated, maintained, and calibrated according to the manufacturer's instructions.

* * * * *

48. Section 98.256 is amended by revising paragraphs (e)(3) and (6), (h)(5)(ii)(A), and (k) to read as follows:

§ 98.256 Data reporting requirements.

* * * * *

(e) * * *

(3) A description of the flare service (general facility flare, unit flare, emergency only or back-up flare) and an indication of whether or not the flare is serviced by a flare gas recovery system.

* * * * *

(6) If you use Equation Y-1a in § 98.253, an indication of whether daily or weekly measurement periods are used, annual average carbon content of the flare gas (in kg carbon per kg flare gas), and, either the annual volume of flare gas combusted (in scf/year) and the annual average molecular weight (in kg/kg-mole), or, the annual mass of flare gas combusted (in kg/yr).

* * * * *

(h) * * *

(5) * * *

(ii) * * *

(A) The annual volume of recycled tail gas (in scf/year).

* * * * *

(k) For each delayed coking unit, the owner or operator shall report:

(1) The unit ID number (if applicable).

(2) Maximum rated throughput of the unit, in bbl/stream day.

(3) Annual quantity of coke produced in the unit during the reporting year, in metric tons.

(4) The calculated annual CH_4 emissions (in metric tons of CH_4) for the delayed coking unit.

(5) The total number of delayed coking vessels (or coke drums) associated with the delayed coking unit.

(6) The basis for the typical dry mass of coke in the delayed coking unit vessel at the end of the coking cycle (mass measurements from company records or calculated using Equation Y-18a of this subpart).

(7) An indication of the method used to estimate the average temperature of the coke bed, $T_{initial}$ (overhead temperature and Equation Y-18c of this subpart or pressure correlation and Equation Y-18d of this subpart).

(8) An indication of whether a unit-specific methane emissions factor or the default methane emission factor was used for the delayed coking unit.

* * * * *

49. Section 98.257 is amended by:

a. Revising paragraphs (b) introductory text and (b)(41) through (45);

b. Removing paragraph (b)(46)

c. Redesignating paragraphs (b)(47) through (67) as paragraphs (b)(53) through (73);

d. Adding new paragraphs (b)(46) through (52); and

e. Revising newly redesignated paragraph (b)(65).

The revisions and additions read as follows:

§ 98.257 Records that must be retained.

* * * * *

(b) Verification software records. You must keep a record of the file generated by the verification software specified in § 98.5(b) for the applicable data specified in paragraphs (b)(1)

through (73) of this section. Retention of this file satisfies the recordkeeping requirement for the data in paragraphs (b)(1) through (73) of this section.

* * * * *

(41) Typical dry mass of coke in the delayed coking unit vessel at the end of the coking cycle (metric tons/cycle) from company records or calculated using Equation Y-18a of this subpart (Equations Y-18a, Y-18b and Y-18e in § 98.253) for each delayed coking unit.

(42) Internal height of delayed coking unit vessel (feet) (Equation Y-18a in § 98.253) for each delayed coking unit.

(43) Typical distance from the top of the delayed coking unit vessel to the top of the coke bed (i.e., coke drum outage) at the end of the coking cycle (feet) from company records or engineering estimates (Equation Y-18a in § 98.253) for each delayed coking unit.

(44) Diameter of delayed coking unit vessel (feet) (Equations Y-18a and Y-18b in § 98.253) for each delayed coking unit.

(45) Mass of water in the delayed coking unit vessel at the end of the cooling cycle prior to atmospheric venting (metric ton/cycle) (Equations Y-18b and Y-18e in § 98.253) for each delayed coking unit.

(46) Typical distance from the bottom of the coking unit vessel to the top of the water level at the end of the cooling cycle just prior to atmospheric venting (feet) from company records or engineering estimates (Equation Y-18b in § 98.253) for each delayed coking unit.

(47) Mass of steam generated and released per decoking cycle (metric tons/cycle) (Equations Y-18e and Y-18f in § 98.253) for each delayed coking unit.

(48) Average temperature of the delayed coking unit vessel when the drum is first vented to the atmosphere (°F) (Equations Y-18c, Y-18d, and Y-18e in § 98.253) for each delayed coking unit.

(49) Temperature of the delayed coking unit vessel overhead line measured as near the coking unit vessel as practical just prior to venting the atmosphere (Equation Y-18c in § 98.253) for each delayed coking unit.

(50) Pressure of the delayed coking unit vessel just prior to opening the atmospheric vent (psig) (Equation Y-18d in § 98.253) for each delayed coking unit.

(51) Methane emission factor for delayed coking unit (kilograms CH_4 per metric ton of steam; kg CH_4/mt steam) (Equation Y-18f in § 98.253) for each delayed coking unit.

(52) Cumulative number of decoking cycles (or coke-cutting cycles) for all delayed coking unit vessels associated with the delayed coking unit during the year (Equation Y-18f in § 98.253) for each delayed coking unit.

* * * * *

(65) Specify whether the calculated or default loading factor L specified in § 98.253(n) is entered, for each liquid loaded to each vessel (methods specified in § 98.253(n)).

* * * * *

Subpart Z—Phosphoric Acid Production

50. Section 98.266 is amended by revising paragraph (f)(3) to read as follows:

§ 98.266 Data reporting requirements.

* * * * *

(f) * * *

(3) Annual phosphoric acid production capacity (tons) for each wet-process phosphoric acid process line.

* * * * *

Subpart AA—Pulp and Paper Manufacturing

51. Section 98.273 is amended by revising paragraphs (a)(1), (b)(1), and (c)(1) to read as follows:

§ 98.273 Calculating GHG emissions.

(a) * * *

(1) Calculate fossil fuel-based CO_2 emissions from direct measurement of fossil fuels consumed and default emissions factors according to the Tier 1 methodology for stationary combustion sources in § 98.33(a)(1). Tiers 2 or 3 from § 98.33(a)(2) or (3) may be used to calculate fossil fuel-based CO2 emissions if the respective monitoring and QA/QC requirements described in § 98.34 are met.

* * * * *

(b) * * *

(1) Calculate fossil CO_2 emissions from fossil fuels from direct measurement of fossil fuels consumed and default emissions factors according to the Tier 1 Calculation Methodology for stationary combustion sources in § 98.33(a)(1). Tiers 2 or 3 from § 98.33(a)(2) or (3) may be used to calculate fossil fuel-based CO_2 emissions if the respective monitoring and QA/QC requirements described in § 98.34 are met.

* * * * *

(c) * * *

(1) Calculate CO_2 emissions from fossil fuel from direct measurement of fossil fuels consumed and default HHV and default emissions factors, according to the Tier 1 Calculation Methodology for stationary combustion sources in § 98.33(a)(1). Tiers 2 or 3 from § 98.33(a)(2) or (3) may be used to calculate fossil fuel-based CO_2 emissions if the respective monitoring and QA/QC requirements described in § 98.34 are met.

* * * * *

52. Section 98.275 is amended by revising paragraph (b) to read as follows:

§ 98.275 Procedures for estimating missing data.

* * * * *

(b) For missing measurements of the mass of spent liquor solids or spent pulping liquor flow rates, use the lesser value of either the maximum mass or fuel flow rate for the combustion unit, or the maximum mass or flow rate that the fuel meter can measure. Alternatively, records of the daily spent liquor solids firing rate obtained to comply with § 63.866(c)(1) of this chapter may be used, adjusting for the duration of the missing measurements, as appropriate.

* * * * *

53. Table AA-2 to Subpart AA of Part 98 is amended by:

a. Revising the column headings for "Kraft lime kilns" and "Kraft calciners";

b. Revising the entry for "Petroleum coke"; and

c. Revising the footnotes.

The revisions read as follows:

Table AA-2 to Subpart AA of Part 98—Kraft Lime Kiln and Calciner Emissions Factors for CH_4 and N_2O

Fuel	Fossil fuel-based emissions factors (kg/mmBtu HHV)	
	Kraft rotary lime kilns	Kraft calciners[a]

	CH_4	N_2O	CH_4	N_2O
* * * * * * *				
Petroleum coke	0.0027	0	[b]NA	[b]NA
* * * * * * *				

[a] Includes, for example, fluidized bed calciners at kraft mills.

[b] Emission factors for kraft calciners are not available.

Subpart CC—Soda Ash Manufacturing

54. Section 98.294 is amended by revising paragraph (a)(2) to read as follows:

§ 98.294 Monitoring and QA/QC requirements.

* * * * *

(a) * * *

(2) Measure the mass of trona input to each soda ash manufacturing line on a monthly basis using belt scales or methods used for accounting purposes.

* * * * *

55. Section 98.296 is amended by revising paragraph (a)(1) and adding paragraph (b)(5) to read as follows:

§ 98.296 Data reporting requirements.

* * * * *

(a) * * *

(1) Annual consumption of trona or liquid alkaline feedstock at the facility level (tons).

* * * * *

(b) * * *

(5) Annual consumption of trona or liquid alkaline feedstock at the facility level (tons).

* * * * *

Subpart DD—Electrical Transmission and Distribution Equipment Use

56. Section 98.306 is amended by revising paragraphs (a)(2) and (3) and adding paragraphs (a)(4), (a)(5), (m), and (n) to read as follows:

§ 98.306 Data reporting requirements.

* * * * *

(a) * * *

(2) New hermetically sealed-pressure switchgear during the year.

(3) New SF_6- or PFC-insulated equipment other than hermetically sealed-pressure switchgear during the year.

(4) Retired hermetically sealed-pressure switchgear during the year.

(5) Retired SF_6- or PFC-insulated equipment other than hermetically sealed-pressure switchgear during the year.

* * * * *

(m) State(s) or territory in which the facility lies and total miles of transmission and distribution lines located within each state or territory.

(n) The following numbers of pieces of equipment:

(1) New hermetically sealed-pressure switchgear during the year.

(2) New SF_6- or PFC-insulated equipment other than hermetically sealed-pressure switchgear during the year.

(3) Retired hermetically sealed-pressure switchgear during the year.

(4) Retired SF_6- or PFC-insulated equipment other than hermetically sealed-pressure switchgear during the year.

Subpart FF—Underground Coal Mines

57. Section 98.323 is amended by:

a. Revising parameter "n" of Equation FF-1 in paragraph (a);

b. Revising paragraph (a)(1) introductory text and paragraph (a)(2);

c. Revising parameter "CH_{4D}" and "n" of Equation FF-3 in paragraph (b); and

d. Revising paragraph (b)(1) and paragraph (b)(2) introductory text.

The revisions and additions read as follows:

§ 98.323 Calculating GHG emissions.

(a) * * *

* * * * *

n = The number of days in the quarter where active ventilation of mining operations is taking place at the monitoring point. To obtain the number of days in the quarter, divide the total number of hours in the quarter where active ventilation is taking place by 24 hours per day.

* * * * *

(1) The quarterly periods are:

* * * * *

(2) Values of V, C, T, P, and, if applicable, (f_{H2O}), must be based on measurements taken at least once each quarter with no fewer than 6 weeks between measurements. If measurements are taken more frequently than once per quarter, then use the average value for all measurements taken that quarter. If continuous measurements are taken, then use the average value over the time period of continuous monitoring.

* * * * *

(b) * * *

* * * * *

CH_{4D} = Weekly CH_4 liberated from the monitoring point (metric tons CH_4).

* * * * *

n = The number of days in the week that the system is operational at that measurement point. To obtain the number of days in the week, divide the total number of hours that the system is operational by 24 hours per day.

* * * * *

(1) Values for V, C, T, P, and, if applicable, (f_{H2O}), must be based on measurements taken at least once each calendar week with at least 3 days between measurements. If measurements are taken more frequently than once per week, then use the average value for all measurements taken that week. If continuous measurements are taken, then use the average values over the time period of continuous monitoring when the continuous monitoring equipment is properly functioning.

(2) Quarterly total CH_4 liberated from degasification systems for the mine must be determined as the sum of CH_4 liberated determined at each of the monitoring points in the mine, summed over the number of weeks in the quarter, as follows:

* * * * *

58. Section 98.324 is amended by:

a. Revising paragraph (b)(1);

b. Removing and reserving paragraph (b)(2); and

c. Revising paragraph (h).

The revisions read as follows:

§ 98.324 Monitoring and QA/QC requirements.

* * * * *

(b) * * *

(1) Collect quarterly or more frequent grab samples (with no fewer than 6 weeks between measurements) for methane concentration and make quarterly measurements of flow rate, temperature, pressure, and, if applicable, moisture content. The sampling and measurements must be made at the same locations as Mine Safety and Health Administration (MSHA) inspection samples are taken, and should be taken when the mine is operating under normal conditions. You must follow MSHA sampling procedures as set forth in the MSHA Handbook entitled, Coal Mine Safety and Health General Inspection Procedures Handbook Number: PH13-V-1, February 2013 (incorporated by reference, see § 98.7). You must record the date of sampling, flow, temperature, pressure, and moisture measurements, the methane concentration (percent), the bottle number of samples collected, and the location of the measurement or collection.

* * * * *

(h) The owner or operator shall document the procedures used to ensure the accuracy of gas flow rate, gas composition, temperature, pressure, and moisture content measurements. These procedures include, but are not limited to, calibration of flow meters, and other measurement devices. The estimated accuracy of measurements and the technical basis for the estimated accuracy shall be recorded.

59. Section 98.326 is amended by revising paragraphs (f) through (i), (o), (r)(2) and (r)(3), and adding paragraph (u) to read as follows:

§ 98.326 Data reporting requirements.

* * * * *

(f) Quarterly volumetric flow rate for each ventilation monitoring point and units of measure (scfm or acfm), date and location of each measurement, and method of measurement

(quarterly sampling or continuous monitoring), used in Equation FF-1 of this subpart. Specify whether the volumetric flow rate measurement at each ventilation monitoring point is on dry basis or wet basis; or, if a flow meter is used, indicate whether or not the flow meter automatically corrects for moisture content.

(g) Quarterly CH_4 concentration for each ventilation monitoring point, dates and locations of each measurement, and method of measurement (sampling or continuous monitoring). Specify whether the CH_4 concentration measurement at each ventilation monitoring point is on dry basis or wet basis.

(h) Weekly volumetric flow rate used to calculate CH_4 liberated from degasification systems and units of measure (acfm or scfm), and method of measurement (sampling or continuous monitoring), used in Equation FF-3 of this subpart. Specify whether the volumetric flow rate measurement at each degasification monitoring point is on dry basis or wet basis; or, if a flow meter is used, indicate whether or not the flow meter automatically corrects for moisture content.

(i) Quarterly CH_4 concentration (%) used to calculate CH_4 liberated from degasification systems, and if the data is based on CEMS or weekly sampling. Specify whether the CH_4 concentration measurement at each degasification monitoring point is on dry basis or wet basis.

* * * * *

(o) Temperature (°R), pressure (atm), moisture content (if applicable), and the moisture correction factor (if applicable) used in Equations FF-1 and FF-3 of this subpart; and the gaseous organic concentration correction factor, if Equation FF-9 of this subpart was required. Moisture content is required to be reported only if CH_4 concentration is measured on a wet basis and volumetric flow is measured on a dry basis, if CH_4 concentration is measured on a dry basis and

volumetric flow is measured on a wet basis; or, if a flow meter is used, the flow meter does not automatically correct for moisture content.

* * * * *

(r) * * *

(2) Start date and close date of each well, shaft, and vent hole. If the well, shaft, or vent hole is operating through the end of the reporting year, December 31st of the reporting year shall be the close date for purposes of reporting.

(3) Number of days the well, shaft, or vent hole was in operation during the reporting year. To obtain the number of days in the reporting year, divide the total number of hours that the system was in operation by 24 hours per day.

* * * * *

(u) Annual coal production in short tons for the reporting year.

Subpart HH—Municipal Solid Waste Landfills

60. Section 98.346 is amended by revising paragraphs (f), (i)(5), and (i)(7), and adding paragraph (i)(13) to read as follows:

§ 98.346 Data reporting requirements.

* * * * *

(f) The surface area of the landfill containing waste (in square meters), identification of the type(s) of cover material used (as either organic cover, clay cover, sand cover, or other soil mixtures).

* * * * *

(i) * * *

(5) An indication of whether destruction occurs at the landfill facility, off-site, or both. If destruction occurs at the landfill facility, also report for each measurement location:

(i) The number of destruction devices associated with the measurement location.

(ii) The annual operating hours of the gas collection system associated with the measurement location,

(iii) For each destruction device associated with the measurement location, report:

(A) The destruction efficiency (decimal).

(B) The annual operating hours where active gas flow was sent to the destruction device.

* * * * *

(7) A description of the gas collection system (manufacturer, capacity, and number of wells), the surface area (square meters) and estimated waste depth (meters) for each area specified in Table HH-3 to this subpart, the estimated gas collection system efficiency for landfills with this gas collection system and an indication of whether the gas collection efficiency was determined on an area-weighted average basis (Option 1) or a volume-weighted average basis (Option 2), and an indication of whether passive vents and/or passive flares (vents or flares that are not considered part of the gas collection system as defined in § 98.6) are present at the landfill.

* * * * *

(13) Methane emissions for the landfill (i.e., the subpart HH total methane emissions). Choose the methane emissions from either Equation HH-6 of this subpart or Equation HH-8 of this subpart that best represents the emissions from the landfill. If the quantity of recovered CH_4 from Equation HH-4 of this subpart is used as the value of G_{CH4} in Equation HH-6 of this

subpart, use the methane emissions calculated using Equation HH-8 of this subpart as the methane emissions for the landfill.

61. Section 98.348 is amended by adding definitions for “Active venting,” “Alternative final cover,” “Intermediate or interim cover,” and “Passive vent” in alphabetical order to read as follows:

§ 98.348 Definitions.

* * * * *

Active venting means a pipe or a system of pipes used with a fan or similar mechanical draft equipment (forced convection) used to actively assist the flow of landfill gas to the surface of the landfill where the landfill gas is discharged either directly to the atmosphere or to a non-combustion control device (such as a carbon absorber) and then to the atmosphere.

Alternative final cover means materials, other than soil, used at a landfill that meets final closure regulations of the competent federal, state, or local authority. Alternative final covers may include, but are not limited to, evapotranspiration covers, capillary barrier covers, asphalt covers, or concrete covers. The state, local, or other agency responsible for permitting the landfill determines whether an alternative final cover meets the applicable regulatory requirements and has been shown to adequately protect human health and the environment.

* * * * *

Intermediate or interim cover means the placement of material over waste in a landfill for a period of time prior to the disposal of additional waste and/or final closure as defined by state regulation, permit, guidance or written plan, or state accepted best management practice.

* * * * *

Passive vent means a pipe or a system of pipes that allows landfill gas to flow naturally, without the use of a fan or similar mechanical draft equipment, to the surface of the landfill where an opening or pipe (vent) allows for the free flow of landfill gas to the atmosphere or to a passive vent flare without diffusion through the top layer of surface soil.

* * * * *

62. Table HH-3 to Subpart HH of Part 98 is amended by:

a. Revising the entry for "A5";

b. Removing the entry "Area weighted average collection efficiency for landfills"; and

c. Adding heading "Weighted average collection efficiency for landfills" and entries for "Option 1" and "Option 2" after the entry for "A5".

The revision and additions read as follows:

Table HH-3 to Subpart HH of Part 98—Landfill Gas Collection Efficiencies

Description	**Landfill Gas Collection Efficiency**
* * * * * * *	
A5: Area with a final soil cover of 3 feet or thicker of clay or alternative final cover (as approved by the relevant agency) and/or geomembrane cover system and active gas collection	CE5: 95%.
Weighted average collection efficiency for landfills:	
Option 1: Area weighted average collection efficiency for landfills	CEave1 = (A2*CE2 + A3*CE3 + A4*CE4 + A5*CE5) / (A2 + A3 + A4 + A5).
Option 2: Volume weighted average collection efficiency for landfills, where D2, D3, D4 and D5 are the waste depths for areas A2, A3, A4 and A5, respectively, as described in this table.	CEave1 = (A2*D2*CE2 + A3*D3*CE3 + A4*D4*CE4 + A5*D5*CE5) / (A2*D2 + A3*D3 + A4*D4 + A5*D5).

63. Table HH-4 to Subpart HH of Part 98 is amended by:

a. Revising the entries "C2" through "C7";

b. Redesignating footnote "a" as footnote "b"; and

c. Adding new footnote "a".

The revisions and additions read as follows:

Table HH-4 to Subpart HH of Part 98—Landfill Methane Oxidation Fractions

Under these conditions:	**Use this landfill methane oxidation fraction:**
* * * * * * *	
C2: For landfills that have an alternative final cover (approved by the relevant agency) and/or a geomembrane (synthetic) cover with less than 12 inches of cover soil for greater than 50% of the landfill area containing waste	0.0
C3: For landfills that do not meet the conditions in C2 above and for which you elect not to determine methane flux, or for landfills with passive vents/passive flares that service greater than 50% of the landfill area containing waste, or for landfills with only passive vents/passive flares or active venting	0.10
C4: For landfills that do not meet the conditions in C2 above and that do not have intermediate or interim cover[a] for greater than 50% of the landfill area containing waste	0.10
C5: For landfills that have intermediate or interim cover[a] for greater than 50% of the landfill area containing waste and for which the methane flux rate[b] is less than 10 grams per square meter per day ($g/m^2/d$)	0.35
C6: For landfills that have intermediate or interim cover[a] for greater than 50% of the landfill area containing waste and for which the methane flux rate[b] is 10 to 70 $g/m^2/d$	0.25
C7: For landfills that have intermediate or interim cover[a] for greater than 50% of the landfill area containing waste and for which the methane flux rate[b] is greater than 70 $g/m^2/d$	0.10

[a] Where a landfill is located in a state that does not have an intermediate or interim cover requirement, the landfill must have soil cover of 12 inches or greater in order to use an oxidation fraction of 0.25 or 0.35.

[b] Methane flux rate (in grams per square meter per day; $g/m^2/d$) is the mass flow rate of methane per unit area at the bottom of the surface soil prior to any oxidation and is calculated as follows:

For Equation HH-5 of this subpart, or for Equation TT-6 of subpart TT of this part,

$$MF = K \times G_{CH4} \ / SArea$$

For Equation HH-6 of this subpart,

$$MF = K \times \left(G_{CH4} - \sum_{n=1}^{N} R_n \right) \Big/ SArea$$

For Equations HH-7 of this subpart,

$$MF = K \times \left(\frac{1}{CE} \sum_{n=1}^{N} \left[\frac{R_n}{f_{Rec,n}} \right] \right) \Big/ SArea$$

For Equation HH-8 of this subpart,

$$MF = K \times \left(\frac{1}{CE} \left\{ \sum_{n=1}^{N} \left[\frac{R_n}{f_{Rec,n}} \right] \right\} - \sum_{n=1}^{N} R_n \right) \Big/ SArea$$

Where:

MF = Methane flux rate from the landfill in the reporting year (grams per square meter per day, $g/m^2/d$).

K = unit conversion factor = $10^6/365$ (g/metric ton per days/year) or $10^6/366$ for a leap year.

SArea = The surface area of the landfill containing waste at the beginning of the reporting year (square meters, m^2).

G_{CH4} = Modeled methane generation rate in reporting year from Equation HH-1 of this subpart or Equation TT-1 of subpart TT of this part, as applicable, except for application with Equation HH-6 of this subpart (metric tons CH_4). For application with Equation HH-6 of this subpart, the greater of the modeled methane generation rate in reporting year from Equation HH-1 of this subpart or Equation TT-1 of this part, as applicable, and the quantity of recovered CH_4 from Equation HH-4 of this subpart (metric tons CH_4).

CE = Collection efficiency estimated at landfill, taking into account system coverage, operation, and cover system materials from Table HH-3 of this subpart. If area by soil cover type information is not available, use default value of 0.75 (CE4 in table HH-3 of this subpart) for all areas under active influence of the collection system.

N = Number of landfill gas measurement locations (associated with a destruction device or gas sent off-site). If a single monitoring location is used to monitor volumetric flow and CH_4 concentration of the recovered gas sent to one or multiple destruction devices, then N = 1.

R_n = Quantity of recovered CH_4 from Equation HH-4 of this subpart for the nth measurement location (metric tons).

$f_{Rec,n}$ = Fraction of hours the recovery system associated with the nth measurement location was operating (annual operating hours/8760 hours per year or annual operating hours/8784 hours per year for a leap year).

Subpart II—Industrial Wastewater Treatment

64. Section 98.356 is amended by revising paragraph (a) introductory text and adding paragraph (b)(6) to read as follows:

§ 98.356 Data reporting requirements.

* * * * *

(a) Identify the anaerobic processes used in the industrial wastewater treatment system to treat industrial wastewater and industrial wastewater treatment sludge, provide a unique identifier for each anaerobic process, indicate the average depth in meters of each anaerobic lagoon, and indicate whether biogas generated by each anaerobic process is recovered. Provide a description or diagram of the industrial wastewater treatment system, identifying the processes used, indicating how the processes are related to each other, and providing a unique identifier for each anaerobic process. Each anaerobic processes must be identified as one of the following:

* * * * *

(b) * * *

(6) If the facility performs an ethanol production processing operation as defined in § 98.358, you must indicate if the facility uses a wet milling process or a dry milling process.

* * * * *

65. Section 98.358 is amended by adding definitions for “Dry milling,” “Wet milling,” and “Weekly average” in alphabetical order to read as follows:

§ 98.358 Definitions.

* * * * *

Dry milling means the process in which shelled corn is milled by dry process, without an initial steeping step.

* * * * *

Wet milling means the process in which shelled corn is steeped in a dilute solution of sulfurous acid (sulfur dioxide dissolved in water) prior to further processing.

Weekly average means the sum of all values measured in a calendar week divided by the number of measurements.

Subpart LL—Suppliers of Coal-based Liquid Fuels

66. Section 98.382 is revised to read as follows:

§ 98.382 GHGs to report.

Suppliers of coal-based liquid fuels must report the CO_2 emissions that would result from the complete combustion or oxidation of fossil-fuel products (besides coal or crude oil) produced, used as feedstock, imported, or exported during the calendar year. Additionally, producers must report CO_2 emissions that would result from the complete combustion or oxidation of any biomass co-processed with fossil fuel-based feedstocks.

67. Section 98.383 is revised to read as follows:

§ 98.383 Calculating GHG emissions.

Suppliers of coal-based liquid fuels must follow the calculation methods of § 98.393 as if they applied to the appropriate coal-to-liquid product supplier (i.e., calculation methods for refiners apply to producers of coal-to-liquid products and calculation methods for importers and exporters of petroleum products apply to importers and exporters of coal-to-liquid products).

(a) In calculation methods in § 98.393 for petroleum products or petroleum-based products, suppliers of coal-to-liquid products shall also include coal-to-liquid products.

(b) In calculation methods in § 98.393 for non-crude feedstocks or non-crude petroleum feedstocks, producers of coal-to-liquid products shall also include coal-to-liquid products that enter the facility to be further processed or otherwise used on site.

(c) In calculation methods in § 98.393 for petroleum feedstocks, suppliers of coal-to-liquid products shall also include coal and coal-to-liquid products that enter the facility to be further processed or otherwise used on site.

68. Section 98.384 is revised to read as follows:

§ 98.384 Monitoring and QA/QC requirements.

Suppliers of coal-based liquid fuels must follow the monitoring and QA/QC requirements in § 98.394 as if they applied to the appropriate coal-to-liquid product supplier. Any monitoring and QA/QC requirement for petroleum products in § 98.394 also applies to coal-to-liquid products.

69. Section 98.385 is revised to read as follows:

§ 98.385 Procedures for estimating missing data.

Suppliers of coal-based liquid fuels must follow the procedures for estimating missing data in § 98.395 as if they applied to the appropriate coal-to-liquid product supplier. Any procedure for estimating missing data for petroleum products in § 98.395 also applies to coal-to-liquid products.

70. Section 98.386 is amended by:

a. Removing and reserving paragraphs (a)(4) and (8);

b. Revising paragraphs (a)(9) introductory text, (a)(10) introductory text, and (a)(11) introductory text,

c. Removing and reserving paragraph (a)(15);

d. Revising paragraph (a)(20);

e. Removing and reserving paragraph (b)(4);

f. Revising paragraphs (b)(5) introductory text and (b)(6) introductory text;

g. Removing and reserving paragraph (c)(4); and

h. Revising paragraphs (c)(5) introductory text and (c)(6) introductory text.

The revisions read as follows:

§ 98.386 Data reporting requirements.

* * * * *

(a) * * *

(9) For every feedstock reported in paragraph (a)(2) of this section for which Calculation Method 2 in § 98.393(f)(2) was used to determine an emissions factor, report:

* * * * *

(10) For every non-solid feedstock reported in paragraph (a)(2) of this section for which Calculation Method 2 in § 98.393(f)(2) was used to determine an emissions factor, report:

* * * * *

(11) For every product reported in paragraph (a)(6) of this section for which Calculation Method 2 in § 98.393(f)(2) was used to determine an emissions factor, report:

* * * * *

(20) Annual quantity of bulk NGLs in metric tons or barrels received for processing during the reporting year. Report only quantities of bulk NGLs not reported in paragraph (a)(2) of this section.

(b) * * *

(5) For each product reported in paragraph (b)(2) of this section for which Calculation Method 2 in § 98.393(f)(2) used was used to determine an emissions factor, report:

* * * * *

(6) For each non-solid product reported in paragraph (b)(2) of this section for which Calculation Method 2 in § 98.393(f)(2) was used to determine an emissions factor, report:

* * * * *

(c) * * *

(5) For each product reported in paragraph (c)(2) of this section for which Calculation Method 2 in § 98.393(f)(2) was used to determine an emissions factor, report:

* * * * *

(6) For each non-solid product reported in paragraph (c)(2) of this section for which Calculation Method 2 in § 98.393(f)(2) used was used to determine an emissions factor, report:

* * * * *

71. Section 98.387 is revised to read as follows:

§ 98.387 Records that must be retained.

Suppliers of coal-based liquid fuels must retain records according to the requirements in § 98.397 as if they applied to the appropriate coal-to-liquid product supplier (e.g., retaining copies of all reports submitted to EPA under § 98.386 and records to support information contained in those reports). Any records for petroleum products that are required to be retained in § 98.397 are also required for coal-to-liquid products.

Subpart MM—Suppliers of Petroleum Products

§ 98.395 [Amended]

72. Section 98.395 is amended by removing paragraph (c).

Subpart NN—Suppliers of Natural Gas and Natural Gas Liquids

73. Section 98.401 is revised to read as follows:

§ 98.401 Reporting threshold.

Any supplier of natural gas and natural gas liquids that meets the requirements of § 98.2(a)(4) must report GHG emissions associated with the products they supply.

74. Section 98.403 is amended by:

a. Revising paragraph (a)(1) introductory text;

b. Removing parameter "$CO_{2.}$" of Equation NN-1 in paragraph (a)(1) and adding in its place a parameter for " CO_{2i} ";

c. Revising paragraph (a)(2) introductory text;

d. Removing parameter "$CO_{2.}$" of Equation NN-2 in paragraph (a)(2) and adding in its place a parameter for " CO_{2i} ";

e. Removing parameter "$CO_{2.}$" of Equation NN-3 in paragraph (b)(1) and adding in its place a parameter for " CO_{2j} ";

f. Revising parameter "Fuel" of Equation NN-3 in paragraph (b)(1);

g. Removing parameter "$CO_{2.}$" of Equation NN-4 in paragraph (b)(2)(ii) and adding in its place a parameter for " CO_{2k} ";

g. Removing parameter "$CO_{2.}$" of Equation NN-5a in paragraph (b)(3)(i) and adding in its place a parameter for " CO_{2l} ";

h. Revising parameter "EF" of Equation NN-5a in paragraph (b)(3)(i);

i. Removing parameter "$CO_{2.}$" of Equation NN-5b in paragraph (b)(3)(ii) and adding in its place a parameter for " CO_{2n} ";

j. Revising the parameters of Equation NN-6 in paragraph (b)(4);

k. Removing parameter "CO_2." of Equation NN-7 in paragraph (c)(1)(ii) and adding in its place a parameter for " CO_{2m} ";

l. Revising parameter "$Fuel_g$" of Equation NN-7 in paragraph (c)(1)(ii); and

m. Revising the parameters of Equation NN-8 in paragraph (c)(2).

The revisions read as follows:

§ 98.403 Calculating GHG emissions.

(a) * * *

(1) Calculation Methodology 1. NGL fractionators shall estimate CO_2 emissions that would result from the complete combustion or oxidation of the product(s) supplied using Equation NN-1 of this section. The annual volume of each NGL product supplied ($Fuel_h$) shall include any amount of that NGL supplied in a mixture or blend of two or more products listed in Tables NN-1 and NN-2 of this subpart. The annual volume of each NGL product supplied shall exclude any amount of that NGL contained in bulk NGLs exiting the facility not fractionated by the reporter (e.g., y-grade, o-grade, and other bulk NGLs). LDCs shall estimate CO_2 emissions that would result from the complete combustion or oxidation of the natural gas received at the city gate (including natural gas that is transported by, but not owned by, the reporter) using Equation NN-1 of this section. For each product, use the default value for higher heating value and CO_2 emission factor in Table NN-1 of this subpart. Alternatively, for each product, a reporter-specific higher heating value and CO_2 emission factor may be used, in place of one or both defaults provided they are developed using methods outlined in § 98.404. For each product, you must use the same volume unit throughout the equation.

* * * * *

CO_{2i} = Annual CO_2 mass emissions that would result from the combustion or oxidation of each product "h" for redelivery to all recipients (metric tons).

* * * * *

(2) Calculation Methodology 2. NGL fractionators shall estimate CO_2 emissions that would result from the complete combustion or oxidation of the product(s) supplied using Equation NN-2 of this section. The annual volume of each NGL product supplied ($Fuel_h$) shall include any amount of that NGL supplied in a mixture or blend of two or more products listed in Tables NN-1 and NN-2 of this subpart. The annual volume of each NGL product supplied shall exclude any amount of that NGL contained in bulk NGLs exiting the facility not fractionated by the reporter (e.g., y-grade, o-grade, and other bulk NGLs). LDCs shall estimate CO_2 emissions that would result from the complete combustion or oxidation of the natural gas received at the city gate (including natural gas that is transported by, but not owned by, the reporter) using Equation NN-2 of this section. For each product, use the default CO_2 emission factor found in Table NN-2 of this subpart. Alternatively, for each product, a reporter-specific CO_2 emission factor may be used in place of the default factor, provided it is developed using methods outlined in § 98.404. For each product, you must use the same volume unit throughout the equation.

* * * * *

CO_{2i} = Annual CO_2 mass emissions that would result from the combustion or oxidation of each product "h" (metric tons)

* * * * *

(b) * * *

(1) * * *

* * * * *

CO_{2j} = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas for redelivery to transmission pipelines or other LDCs (metric tons).

Fuel = Total annual volume of natural gas supplied to downstream gas transmission pipelines and other local distribution companies (Mscf per year).

* * * * *

(2) * * *

(ii) * * *

* * * * *

CO_{2k} = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas delivered to each large end-user k, as defined in paragraph (b)(2)(i) of this section (metric tons).

* * * * *

(3) * * *

(i) * * *

* * * * *

CO_{2l} = Annual CO_2 mass emissions that would result from the combustion or oxidation of the net change in natural gas stored on system by the LDC within the reporting year (metric tons).

* * * * *

EF = CO_2 emission factor for natural gas placed into/removed from storage (MT CO_2/Mscf).

(ii) * * *

* * * * *

CO_{2n} = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas received that bypassed the city gate and is not otherwise accounted for by Equation NN-1 or NN-2 of this section (metric tons).

* * * * *

(4) * * *

* * * * *

CO_2 = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas delivered to LDC end-users not covered in paragraph (b)(2) of this section (metric tons).

CO_{2i} = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas received at the city gate as calculated in paragraph (a)(1) or (2) of this section (metric tons).

CO_{2j} = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas delivered to transmission pipelines or other LDCs as calculated in paragraph (b)(1) of this section (metric tons).

CO_{2k} = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas delivered to each large end-user as calculated in paragraph (b)(2) of this section (metric tons).

CO_{2l} = Annual CO_2 mass emissions that would result from the combustion or oxidation of the net change in natural gas stored by the LDC within the reported year as calculated in paragraph (b)(3)(i) of this section (metric tons).

CO_{2n} = Annual CO_2 mass emissions that would result from the combustion or oxidation of natural gas that was received by the LDC directly from sources bypassing the city gate, and is not otherwise accounted for in Equation NN-1 or NN-2 of this section, as calculated in paragraph (b)(3)(ii) of this section (metric tons).

(c) * * *

(1) * * *

(ii) * * *

* * * * *

CO_{2m} = Annual CO_2 mass emissions that would result from the combustion or oxidation of each fractionated NGL product “g” received from other fractionators (metric tons).

$Fuel_g$ = Total annual volume of each NGL product “g” received from other fractionators (bbls).

* * * * *

(2) * * *

* * * * *

CO_2 = Annual CO_2 mass emissions that would result from the combustion or oxidation of fractionated NGLs delivered to customers or on behalf of customers less the quantity received from other fractionators (metric tons).

CO_{2i} = Annual CO_2 mass emissions that would result from the combustion or oxidation of fractionated NGLs delivered to all customers or on behalf of customers as calculated in paragraph (a)(1) or (2) of this section (metric tons).

CO_{2m} = Annual CO_2 mass emissions that would result from the combustion or oxidation of fractionated NGLs received from other fractionators and calculated in paragraph (c)(1) of this section (metric tons).

75. Section 98.404 is amended by revising paragraph (a)(1) introductory text and paragraphs (a)(3) and (4) to read as follows:

§ 98.404 Monitoring and QA/QC requirements.

(a) * * *

(1) NGL fractionators and LDCs shall determine the quantity of NGLs and natural gas using methods in common use in the industry for billing purposes as audited under existing Sarbanes Oxley regulation.

* * * * *

(3) NGL fractionators shall use measurement for NGLs at custody transfer meters or at such meters that are used to determine the NGL product slate delivered from the fractionation facility.

(4) If a NGL fractionator supplies a product that is a mixture or blend of two or more products listed in Tables NN-1 and NN-2 of this subpart, the NGL fractionator shall report the quantities of the constituents of the mixtures or blends separately.

* * * * *

76. Section 98.406 is amended by:

a. Revising paragraphs (a)(1) and (2);

b. Revising paragraphs (b)(1), (6), (12), and (13) introductory text; and

c. Adding paragraph (b)(14).

The revisions read as follows:

§ 98.406 Data reporting requirements.

(a) * * *

(1) Annual quantity (in barrels) of each NGL product supplied (including fractionated NGL products received from other NGL fractionators) in the following product categories: ethane, propane, normal butane, isobutane, and pentanes plus ($Fuel_h$ in Equations NN-1 and NN-2 of this subpart).

(2) Annual quantity (in barrels) of each NGL product received from other NGL fractionators in the following product categories: ethane, propane, normal butane, isobutane, and pentanes plus ($Fuel_g$ in Equation NN-7 of this subpart).

* * * * *

(b) * * *

(1) Annual volume in Mscf of natural gas received by the LDC at its city gate stations for redelivery on the LDC's distribution system, including for use by the LDC ($Fuel_h$ in Equations NN-1 and NN-2 of this subpart).

* * * * *

(6) Annual volume in Mscf of natural gas delivered to downstream gas transmission pipelines and other local distribution companies (Fuel in Equation NN-3 of this subpart).

* * * * *

(12) For each large end-user reported in paragraph (b)(7) of this section, report:

(i) The customer name, address, and meter number(s).

(ii) Whether the quantity of natural gas reported in paragraph (b)(7) of this section is the total quantity delivered to a large end-user's facility, or the quantity delivered to a specific meter located at the facility.

(iii) If known, report the EIA identification number of each LDC customer.

(13) The annual volume in Mscf of natural gas delivered by the LDC (including natural gas that is not owned by the LDC) to each of the following end-use categories. For definitions of these categories, refer to EIA Form 176 (Annual Report of Natural Gas and Supplemental Gas Supply & Disposition) and Instructions.

* * * * *

(14) The name of the U.S. state or territory covered in this report submission.

* * * * *

77. Table NN-2 to subpart NN of part 98 is amended by revising the title to the table and the heading of the third column to read as follows:

Table NN-2 to Subpart NN of Part 98—Default Factors for Calculation Methodology 2 of This Subpart

Fuel	Unit	Default CO_2 emission factor (MT CO_2/Unit)[1]
* * * * * * *		

[1] Conditions for emission value presented in MT CO_2/bbl are 60 °F and saturation pressure.

Subpart OO—Suppliers of Industrial Greenhouse Gases

78. Section 98.410 is amended by revising paragraph (a) and adding paragraphs (d) and (e) to read as follows:

§ 98.410 Definition of the source category.

(a) The industrial gas supplier source category consists of any facility that produces fluorinated GHGs, fluorinated HTFs, or nitrous oxide; any bulk importer of fluorinated GHGs,

fluorinated HTFs, or nitrous oxide; any bulk exporter of fluorinated GHGs, fluorinated HTFs, or nitrous oxide; and any facility that destroys fluorinated GHGs or fluorinated HTFs.

* * * * *

(d) To produce a fluorinated HTF means to manufacture, from any raw material or feedstock chemical, a fluorinated GHG used for temperature control, device testing, cleaning substrate surfaces and other parts, and soldering in processes including but not limited to certain types of electronics manufacturing production processes. Fluorinated heat transfer fluids do not include fluorinated GHGs used as lubricants or surfactants. For fluorinated heat transfer fluids under this subpart, the lower vapor pressure limit of 1 mm Hg in absolute at 25 °C in the definition of fluorinated greenhouse gas in § 98.6 shall not apply. Fluorinated heat transfer fluids include, but are not limited to, perfluoropolyethers, perfluoroalkanes, perfluoroethers, tertiary perfluoroamines, and perfluorocyclic ethers. Producing a fluorinated HTF does not include the reuse or recycling of a fluorinated HTF, the creation of intermediates, or the creation of fluorinated HTFs that are released or destroyed at the production facility before the production measurement at § 98.414(a).

(e) For purposes of this subpart, to destroy fluorinated GHGs or fluorinated HTFs means to cause the expiration of a previously produced (as defined at § 98.410(b) and (d)) fluorinated GHG or fluorinated HTF to the destruction efficiency actually achieved. Such destruction does not result in a commercially useful end product. For purposes of this subpart, such destruction does not include HFC-23 destruction as defined at § 98.150 or the dissociation of fluorinated GHGs that occurs during electronics manufacturing as defined at § 98.90. For example, such destruction does not include the dissociation of fluorinated GHGs that occurs during etch or

chamber cleaning processes or during use of abatement systems that treat the fluorinated GHGs vented from such processes at electronics manufacturing facilities.

79. Section 98.412 is revised to read as follows

§ 98.412 GHGs to report.

You must report the GHG emissions that would result from the release of the nitrous oxide and each fluorinated GHG or fluorinated HTF that you produce, import, export, transform, or destroy during the calendar year.

80. Section 98.413 is amended by:

a. Revising paragraph (a) introductory text;

b. Revising the parameters of Equation OO-1 in paragraph (a);

c. Revising paragraph (b) introductory text;

d. Revising the parameters of Equation OO-2 in paragraph (b);

e. Revising paragraph (c) introductory text;

f. Revising parameters "T" and "E_T" of Equation OO-3 in paragraph (c);

g. Revising paragraph (d) introductory text; and

h. Revising parameters "D" and "F_D" of Equation OO-4 in paragraph (d).

The revisions read as follows:

§ 98.413 Calculating GHG emissions.

(a) Calculate the total mass of each fluorinated GHG, fluorinated HTF, or nitrous oxide produced annually, except for amounts that are captured solely to be shipped off site for destruction, by using Equation OO-1 of this section:

* * * * *

P = Mass of fluorinated GHG, fluorinated HTF, or nitrous oxide produced annually.

P_p = Mass of fluorinated GHG, fluorinated HTF, or nitrous oxide produced over the period "p".

(b) Calculate the total mass of each fluorinated GHG, fluorinated HTF, or nitrous oxide produced over the period "p" by using Equation OO-2 of this section:

* * * * *

P_p = Mass of fluorinated GHG, fluorinated HTF, or nitrous oxide produced over the period "p" (metric tons).

O_p = Mass of fluorinated GHG, fluorinated HTF, or nitrous oxide that is measured coming out of the production process over the period p (metric tons).

U_p = Mass of used fluorinated GHG, fluorinated HTF, or nitrous oxide that is added to the production process upstream of the output measurement over the period "p" (metric tons).

(c) Calculate the total mass of each fluorinated GHG, fluorinated HTF, or nitrous oxide transformed by using Equation OO-3 of this section:

* * * * *

T = Mass of fluorinated GHG, fluorinated HTF, or nitrous oxide transformed annually (metric tons).

* * * * *

E_T = The fraction of the fluorinated GHG, fluorinated HTF, or nitrous oxide fed into the transformation process that is transformed in the process (metric tons).

(d) Calculate the total mass of each fluorinated GHG or fluorinated HTF destroyed by using Equation OO-4 of this section:

* * * * *

D = Mass of fluorinated GHG or fluorinated HTF destroyed annually (metric tons).

F_D = Mass of fluorinated GHG or fluorinated HTF fed into the destruction device annually (metric tons).

* * * * *

81. Section 98.414 is amended by revising paragraphs (a) through (i), (l), (n) introductory text, (n)(3) through (5), and (o) to read as follows:

§ 98.414 Monitoring and QA/QC requirements.

(a) The mass of fluorinated GHGs, fluorinated HTFs, or nitrous oxide coming out of the production process shall be measured using flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of one percent of full scale or better. If the measured mass includes more than one fluorinated GHG or fluorinated HTF, the concentrations of each of the fluorinated GHGs or fluorinated HTFs, other than low-concentration constituents, shall be measured as set forth in paragraph (n) of this section. For each fluorinated GHG or fluorinated HTF, the mean of the concentrations of that fluorinated GHG (mass fraction) measured under paragraph (n) of this section shall be multiplied by the mass measurement to obtain the mass of that fluorinated GHG or fluorinated HTF coming out of the production process.

(b) The mass of any used fluorinated GHGs, fluorinated HTFs, or used nitrous oxide added back into the production process upstream of the output measurement in paragraph (a) of this section shall be measured using flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of one percent of full scale or better. If the mass in paragraph (a) of this section is measured by weighing containers that include returned heels as well as newly produced fluorinated GHGs or fluorinated HTFs, the returned heels shall be considered used fluorinated GHGs or fluorinated HTFs for purposes of this paragraph (b) of this section and § 98.413(b).

(c) The mass of fluorinated GHGs, fluorinated HTFs, or nitrous oxide fed into the transformation process shall be measured using flowmeters, weigh scales, or a combination of

volumetric and density measurements with an accuracy and precision of one percent of full scale or better.

(d) The fraction of the fluorinated GHGs, fluorinated HTFs, or nitrous oxide fed into the transformation process that is actually transformed shall be estimated considering yield calculations or quantities of unreacted fluorinated GHGs, fluorinated HTFs, or nitrous oxide permanently removed from the process and recovered, destroyed, or emitted.

(e) The mass of fluorinated GHGs, fluorinated HTFs, or nitrous oxide sent to another facility for transformation shall be measured using flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of one percent of full scale or better.

(f) The mass of fluorinated GHGs or fluorinated HTFs sent to another facility for destruction shall be measured using flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of one percent of full scale or better. If the measured mass includes more than trace concentrations of materials other than the fluorinated GHG or fluorinated HTF, the concentration of the fluorinated GHG or fluorinated HTF shall be estimated considering current or previous representative concentration measurements and other relevant process information. This concentration (mass fraction) shall be multiplied by the mass measurement to obtain the mass of the fluorinated GHG or fluorinated HTF sent to another facility for destruction.

(g) You must estimate the share of the mass of fluorinated GHGs or fluorinated HTFs in paragraph (f) of this section that is comprised of fluorinated GHGs or fluorinated HTFs that are not included in the mass produced in § 98.413(a) because they are removed from the production process as by-products or other wastes.

(h) You must measure the mass of each fluorinated GHG or fluorinated HTF that is fed into the destruction device and that was previously produced as defined at § 98.410(b). Such fluorinated GHGs or fluorinated HTFs include but are not limited to quantities that are shipped to the facility by another facility for destruction and quantities that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore destroyed. You must use flowmeters, weigh scales, or a combination of volumetric and density measurements with an accuracy and precision of one percent of full scale or better. If the measured mass includes more than trace concentrations of materials other than the fluorinated GHG or fluorinated HTF being destroyed, you must estimate the concentrations of the fluorinated GHG or fluorinated HTF being destroyed considering current or previous representative concentration measurements and other relevant process information. You must multiply this concentration (mass fraction) by the mass measurement to obtain the mass of the fluorinated GHG or fluorinated HTF fed into the destruction device.

(i) Very small quantities of fluorinated GHGs or fluorinated HTFs that are difficult to measure because they are entrained in other media such as destroyed filters and destroyed sample containers are exempt from paragraphs (f) and (h) of this section.

* * * * *

(l) In their estimates of the mass of fluorinated GHGs or fluorinated HTFs destroyed, facilities that destroy fluorinated GHGs or fluorinated HTFs shall account for any temporary reductions in the destruction efficiency that result from any startups, shutdowns, or malfunctions of the destruction device, including departures from the operating conditions defined in state or local permitting requirements and/or oxidizer manufacturer specifications.

* * * * *

(n) If the mass coming out of the production process includes more than one fluorinated GHG or fluorinated HTF, you shall measure the concentrations of all of the fluorinated GHGs or fluorinated HTFs, other than low-concentration constituents, as follows:

* * * * *

(3) *Frequency of measurement.* Perform the measurements at least once by February 15, 2011 if the fluorinated GHG product is being produced on December 17, 2010. Perform the measurements within 60 days of commencing production of any fluorinated GHG product that was not being produced on December 17, 2010. For fluorinated HTF products, perform the measurements at least once by February 15, 2017, if the fluorinated HTF product is being produced on January 1, 2017. Repeat the measurements if an operational or process change occurs that could change the identities or significantly change the concentrations of the fluorinated GHG or fluorinated HTF constituents of the fluorinated GHG or fluorinated HTF product. Complete the repeat measurements within 60 days of the operational or process change.

(4) *Measure all product grades.* Where a fluorinated GHG or fluorinated HTF is produced at more than one purity level (*e.g.*, pharmaceutical grade and refrigerant grade), perform the measurements for each purity level.

(5) *Number of samples.* Analyze a minimum of three samples of the fluorinated GHGs or fluorinated HTF product that have been drawn under conditions that are representative of the process producing the fluorinated GHGs or fluorinated HTF product. If the relative standard deviation of the measured concentrations of any of the fluorinated GHGs or fluorinated HTF constituents (other than low-concentration constituents) is greater than or equal to 15 percent, draw and analyze enough additional samples to achieve a total of at least six samples of the fluorinated GHG or fluorinated HTF product.

(o) All analytical equipment used to determine the concentration of fluorinated GHGs or fluorinated HTFs, including but not limited to gas chromatographs and associated detectors, IR, FTIR and NMR devices, shall be calibrated at a frequency needed to support the type of analysis specified in the site GHG Monitoring Plan as required under §§ 98.414(n) and 98.3(g)(5) of this part. Quality assurance samples at the concentrations of concern shall be used for the calibration. Such quality assurance samples shall consist of or be prepared from certified standards of the analytes of concern where available; if not available, calibration shall be performed by a method specified in the GHG Monitoring Plan.

* * * * *

82. Section 98.416 is amended by:

a. Revising paragraph (a);

b. Revising paragraphs (b) introductory text, (b)(3), and (b)(6);

c. Revising paragraphs (c) introductory text, (c)(1) through (6), and (c)(8) through (10);

d. Revising paragraphs (d) introductory text, (d)(1), and (d)(4) through (6); and

e. Adding paragraphs (i) and (j).

The revisions and additions read as follows:

§ 98.416 Data reporting requirements.

* * * * *

(a) Each fluorinated GHG, fluorinated HTF, or nitrous oxide production facility shall report the following information:

(1) Mass in metric tons of each fluorinated GHG, fluorinated HTF, or nitrous oxide produced at that facility by process, except for amounts that are captured solely to be shipped off site for destruction.

(2) Mass in metric tons of each fluorinated GHG, fluorinated HTF, or nitrous oxide transformed at that facility, by process.

(3) Mass in metric tons of each fluorinated GHG or fluorinated HTF that is destroyed at that facility and that was previously produced as defined at § 98.410(b). Quantities to be reported under paragraph (a)(3) of this section include but are not limited to quantities that are shipped to the facility by another facility for destruction and quantities that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore destroyed.

(4) [Reserved]

(5) Total mass in metric tons of each fluorinated GHG, fluorinated HTF, or nitrous oxide sent to another facility for transformation.

(6) Total mass in metric tons of each fluorinated GHG or fluorinated HTF sent to another facility for destruction, except fluorinated GHGs and fluorinated HTFs that are not included in the mass produced in § 98.413(a) because they are removed from the production process as by-products or other wastes. Quantities to be reported under paragraph (a)(6) of this section could include, for example, fluorinated GHGs that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore sent to another facility for destruction.

(7) Total mass in metric tons of each fluorinated GHG or fluorinated HTF that is sent to another facility for destruction and that is not included in the mass produced in § 98.413(a) because it is removed from the production process as a byproduct or other waste.

(8)-(9) [Reserved]

(10) Mass in metric tons of any fluorinated GHG, fluorinated HTF, or nitrous oxide fed into the transformation process, by process.

(11) Mass in metric tons of each fluorinated GHG or fluorinated HTF that is fed into the destruction device and that was previously produced as defined at § 98.410(b). Quantities to be reported under paragraph (a)(11) of this section include but are not limited to quantities that are shipped to the facility by another facility for destruction and quantities that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore destroyed.

(12) Mass in metric tons of each fluorinated GHG, fluorinated HTF, or nitrous oxide that is measured coming out of the production process, by process.

(13) Mass in metric tons of each used fluorinated GHGs, fluorinated HTFs, or nitrous oxide added back into the production process (e.g., for reclamation), including returned heels in containers that are weighed to measure the mass in § 98.414(a), by process.

(14) Names and addresses of facilities to which any nitrous oxide, fluorinated GHGs, or fluorinated HTFs were sent for transformation, and the quantities (metric tons) of nitrous oxide and of each fluorinated GHG or fluorinated HTF that were sent to each for transformation.

(15) Names and addresses of facilities to which any fluorinated GHGs or fluorinated HTFs were sent for destruction, and the quantities (metric tons) of each fluorinated GHG or fluorinated HTF that were sent to each for destruction.

(16) Where missing data have been estimated pursuant to § 98.415, the reason the data were missing, the length of time the data were missing, the method used to estimate the missing data, and the estimates of those data.

(b) By March 31, 2017 or within 60 days of commencing fluorinated GHG or fluorinated HTF destruction, whichever is later, any facility that destroys fluorinated GHGs or fluorinated HTFs shall submit a one-time report containing the information in paragraphs (b)(1) through (6)

of this section for each destruction process. Facilities that previously submitted a one-time report under this paragraph are exempt from this requirement unless they meet the conditions in paragraph (b)(6) of this section.

* * * * *

(3) Methods used to record the mass of fluorinated GHG or fluorinated HTF destroyed.

* * * * *

(6) If any process changes affect unit destruction efficiency or the methods used to record mass of fluorinated GHG or fluorinated HTF destroyed, then a revised report must be submitted to reflect the changes. The revised report must be submitted to EPA within 60 days of the change.

(c) Each bulk importer of fluorinated GHGs, fluorinated HTFs, or nitrous oxide shall submit an annual report that summarizes its imports at the corporate level, except for shipments including less than twenty-five kilograms of fluorinated GHGs, fluorinated HTFs, or nitrous oxide, transshipments, and heels that meet the conditions set forth at § 98.417(e). The report shall contain the following information for each import:

(1) Total mass in metric tons of nitrous oxide and each fluorinated GHG or fluorinated HTF imported in bulk, including each fluorinated GHG or fluorinated HTF constituent of the fluorinated GHG or fluorinated HTF product that makes up between 0.5 percent and 100 percent of the product by mass.

(2) Total mass in metric tons of nitrous oxide and each fluorinated GHG or fluorinated HTF imported in bulk and sold or transferred to persons other than the importer for use in processes resulting in the transformation or destruction of the chemical.

(3) Date on which the fluorinated GHGs, fluorinated HTFs, or nitrous oxide were imported.

(4) Port of entry through which the fluorinated GHGs, fluorinated HTFs, or nitrous oxide passed.

(5) Country from which the imported fluorinated GHGs, fluorinated HTFs, or nitrous oxide were imported.

(6) Commodity code of the fluorinated GHGs, fluorinated HTFs, or nitrous oxide shipped.

* * * * *

(8) Total mass in metric tons of each fluorinated GHG or fluorinated HTF destroyed by the importer.

(9) If applicable, the names and addresses of the persons and facilities to which the nitrous oxide, fluorinated GHGs, or fluorinated HTFs were sold or transferred for transformation, and the quantities (metric tons) of nitrous oxide and of each fluorinated GHG or fluorinated HTF that were sold or transferred to each facility for transformation.

(10) If applicable, the names and addresses of the persons and facilities to which the fluorinated GHGs or fluorinated HTFs were sold or transferred for destruction, and the quantities (metric tons) of each fluorinated GHG or fluorinated HTF that were sold or transferred to each facility for destruction.

(d) Each bulk exporter of fluorinated GHGs, fluorinated HTFs, or nitrous oxide shall submit an annual report that summarizes its exports at the corporate level, except for shipments including less than twenty-five kilograms of fluorinated GHGs, fluorinated HTFs, or nitrous

oxide, transshipments, and heels. The report shall contain the following information for each export:

(1) Total mass in metric tons of nitrous oxide and each fluorinated GHG or fluorinated HTF exported in bulk.

* * * * *

(4) Commodity code of the fluorinated GHGs, fluorinated HTFs, or nitrous oxide shipped.

(5) Date on which, and the port from which, the fluorinated GHGs, fluorinated HTFs, or nitrous oxide were exported from the United States or its territories.

(6) Country to which the fluorinated GHGs, fluorinated HTFs, or nitrous oxide were exported.

* * * * *

(i) Each facility that destroys fluorinated GHGs or fluorinated HTFs but does not otherwise report under this section shall report the mass in metric tons of each fluorinated GHG or fluorinated HTF that is destroyed at that facility and that was previously produced as defined at § 98.410(b) or (d), as applicable. Quantities to be reported under this paragraph include but are not limited to quantities that are shipped to the facility by another facility for destruction and quantities that are returned to the facility for reclamation but are found to be irretrievably contaminated and are therefore destroyed.

(j) By March 31, 2017, all fluorinated HTF production facilities shall submit a one-time report that includes the concentration of each fluorinated HTF or fluorinated GHG constituent in each fluorinated HTF product as measured under § 98.414(n). If the facility commences production of a fluorinated HTF product that was not included in the initial report or performs a

repeat measurement under § 98.414(n) that shows that the identities or concentrations of the fluorinated HTF or fluorinated GHG constituents of a fluorinated HTF product have changed, then the new or changed concentrations, as well as the date of the change, must be provided in a revised report. The revised report must be submitted to EPA by the March 31st that immediately follows the new or repeat measurement under § 98.414(n).

83. Section 98.418 is amended by revising the definition of "Low-concentration constituent" to read as follows:

§ 98.418 Definitions.

* * * * *

Low-concentration constituent means, for purposes of fluorinated GHG or fluorinated HTF production and export, a fluorinated GHG or fluorinated HTF constituent of a fluorinated GHG or fluorinated HTF product that occurs in the product in concentrations below 0.1 percent by mass. For purposes of fluorinated GHG or fluorinated HTF import, low-concentration constituent means a fluorinated GHG or fluorinated HTF constituent of a fluorinated GHG or fluorinated HTF product that occurs in the product in concentrations below 0.5 percent by mass. Low-concentration constituents do not include fluorinated GHGs or fluorinated HTFs that are deliberately combined with the product (*e.g.,* to affect the performance characteristics of the product).

Subpart PP—Suppliers of Carbon Dioxide

84. Section 98.425 is amended by revising paragraph (b) introductory text to read as follows:

§ 98.425 Procedures for estimating missing data.

* * * * *

(b) Whenever the quality assurance procedures in § 98.424(b) cannot be followed to determine concentration of the CO_2 stream, the most appropriate of the following missing data procedures shall be followed:

* * * * *

Subpart RR—Geologic Sequestration of Carbon Dioxide

85. Section 98.446 is amended by adding paragraph (g) to read as follows:

§98.446 Data reporting requirements.

* * * * *

(g) Whether the CO_2 stream is being injected into subsurface geologic formations to enhance the recovery of oil or natural gas.

Subpart TT—Industrial Waste Landfills

86. Table TT-1 to Subpart TT of Part 98 is amended by:

a. Removing the entry "Pulp and Paper (other than industrial sludge)";

b. Adding a heading entry for "Pulp and Paper Industry:", and subordinate entries for "Boiler Ash", "Wastewater Sludge", "Kraft Recovery Wastes", and "Other Pulp and Paper Wastes (not otherwise listed)" to follow the entry for "Food Processing (other than industrial sludge)";

c. Revising the entry "Industrial Sludge" and footnote a; and

d. Adding footnote "b".

The revisions and additions read as follows:

Table TT-1 to Subpart TT of Part 98—Default DOC and Decay Rate Values for Industrial Waste Landfills

Industry/Waste Type	DOC (weight fraction, wet basis)	k [dry climate[a]] (yr^{-1})	k [moderate climate[a]] (yr^{-1})	k [wet climate[a]] (yr^{-1})

* * * * * * *				
Pulp and Paper Industry:				
Boiler Ash	0.06	0.02	0.03	0.04
Wastewater Sludge	0.12	0.02	0.04	0.06
Kraft Recovery Wastes[b]	0. 025	0.02	0.03	0.04
Other Pulp and Paper Wastes (not otherwise listed)	0.20	0.02	0.03	0.04
* * * * * * *				
Industrial Sludge (other than pulp and paper industry sludge)	0.09	0.02	0.04	0.06
* * * * * * *				

[a] The applicable climate classification is determined based on the annual rainfall plus the recirculated leachate application rate. Recirculated leachate application rate (in inches/year) is the total volume of leachate recirculated from company records or engineering estimates and applied to the landfill divided by the area of the portion of the landfill containing waste [with appropriate unit conversions].Dry climate = precipitation plus recirculated leachate less than 20 inches/year; Moderate climate = precipitation plus recirculated leachate from 20 to 40 inches/year (inclusive); Wet climate = precipitation plus recirculated leachate greater than 40 inches/year. Alternatively, landfills that use leachate recirculation can elect to use the k value for wet climate rather than calculating the recirculated leachate rate.

[b] Kraft Recovery Wastes include green liquor dregs, slaker grits, and lime mud, which may also be referred to collectively as causticizing or recausticizing wastes.

Subpart UU—Injection of Carbon Dioxide

87. Section 98.474 is amended by revising paragraph (c)(2) to read as follows:

§ 98.474 Monitoring and QA/QC requirements.

* * * * *

(c) * * *

(2) You must convert all measured volumes of CO_2 to the following standard industry temperature and pressure conditions for use in Equation UU-2 of this subpart: standard cubic meters at a temperature of 60 degrees Fahrenheit and at an absolute pressure of 1 atmosphere.

* * * * *

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